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THE YUKON ECONOMY
ITS POTENTIAL FOR GROWTH AND CONTINUITY

VOLUME IV REFERENCE STUDIES ON SOCIAL SERVICES
AND RESOURCE INDUSTRIES

Background studies prepared by
D. Wm. Carr & Associates Ltd.
as part of the
YUKON ECONOMIC STUDIES
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and the
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EDUCATION IN THE YUKON TERRITORY

by

Joan Gherson

D. Wm. Carr & Associates Ltd.

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EDUCATION IN THE YUKON TERRITORY

Introduction

Under the British North America Act, the provinces are responsible for education. With the evolution of the public policy that full educational opportunities should be open to every child, this responsibility has become more and more costly to the provinces and municipalities. In this respect, the Yukon Territory is no exception. Indeed, the provision of adequate facilities and qualified staff has proved both financially burdensome and difficult in an area where all costs are generally much higher than in the provinces, and where there are a large number of isolated communities and virtually all teachers must be recruited from outside.

If, however, the Yukon is to attract the people it requires for its economic development and at the same time enable its population to play a full part in that development, there is a compelling need for the Yukon to provide at least as high a standard of education as is found in the rest of Canada.

Background

At the beginning of the second world war, some forty years after the first schools (denominational schools) were opened in the Yukon, the Territory was maintaining six schools with a total enrolment of less than 300 pupils in ten classrooms. In addition, the federal government maintained a number of schools for Indian children, operated by religious missions. Although there are for this period no reliable data on age distribution of the Yukon population (which totalled 4,914 in 1941) even the most modest estimate of the number of children of school age would lead to the conclusion that less than 50 per cent of those between the ages of five and 19 were attending school. During the war there was a considerable growth in the Yukon population with an accompanying need for expansion of classroom accommodation. By 1950, there were 11 schools operated by the Territorial government, two separate schools, and six full-time Indian schools (including one residential school), as well as a number of seasonal Indian schools in the Territory, and an Indian residential school at Lower Post, B.C. Only two schools, however, had high school departments providing education leading to university entrance.

Since 1950 the Territorial government has gradually taken over responsibility for schools previously operated by all other agencies, so that today all are administered by the Territorial Department of Education. At the same time, Indian children have been taken into Territorial schools. These developments, together with a steady growth in the number of enrolments, have brought the Yukon school attendance to more than 3,500, or nearly 80 per cent of the population in the five to 19 age group. Not only have the numbers increased, but also the quality of education has greatly improved. Teaching to Grade 12 level is now available in four areas and in Whitehorse it is possible to proceed to Grade 13 to take advantage of a wide range of commercial or industrial courses at high school, leading to more advanced training in the new vocational school in Whitehorse.

Description of Existing Services

In 1967 there were 22 schools in operation in the Yukon Territory with a total of 138 classrooms, 165 teachers and net enrolment of about 3,500 students (Table 1). In addition to public and secondary schools, the Territory's vocational training school, completed in

TABLE 1

NUMBER OF PUBLIC SCHOOLS, CLASSROOMS, TEACHERS AND PUPILS
YUKON TERRITORY, SELECTED YEARS^{1/}

Year	Schools	Classrooms	Teachers	Pupils ^{2/}
		(number)		
1934-35	5	9	10	177
1939-40	6	10	10	246
1944-45	6	14	14	441
1949-50	11	29	21	759
1950-51	11	31	33	868
1951-52	12	34	36	1,005
1952-53	13	43	45	1,173
1953-54	15	48	52	1,412
1954-55	16	55	59	1,554
1955-56	16	60	65	1,675
1956-57	16	63	70	1,790
1957-58	16	69	76	1,953
1958-59	16	72	81	2,029
1959-60	18	85	96	2,294
1960-61	19	93	104	2,606
1961-62	19	93	117	2,931
1962-63	21	n.a.	135	3,155
1963-64	22	128	146	3,307
1964-65	23	129	149	3,180
1965-66	22	130	150	3,349
1966-67	22	138	165	3,541

^{1/} Annual Report of the Commissioner of the Yukon Territory, 1966-67.

^{2/} Net enrolment. Includes pupils who left the Yukon to attend schools outside the Territory or who ceased to attend any school.

1964, provides vocational training to nearly 200 students. Several new facilities, including a senior secondary school in Whitehorse, dormitory accommodation and schools to service the major new mining developments are in planning or construction stages.

Current Problems

Finance

The rapid growth in enrolments, from less than 300 in 1940 to more than 3,500 in 1967 could only have been brought about through a very extensive building program. There were only ten classrooms in Territorial schools in 1940. By 1967, there were nearly twenty times that number.

As a result, a very high proportion of total expenditure for education has been for construction. Since 1960, capital expenditure has accounted for over one-third of the total expenditure for primary and secondary education and in only one year was it less than 23 per cent of the total (Table 2). By comparison, capital expenditure by school boards (covering primary and secondary schools) in the rest of Canada averaged only 18

OPERATING AND CAPITAL EXPENDITURES ON EDUCATION, YUKON TERRITORY, 1960-61 TO 1966-67^{1/2}

Public Accounts, Yukon Territory, 1960-61 to 1966-67.

Includes Vocational School.

per cent of total expenditure in 1965,^{1/} the last year for which figures are available. This comparison is indicative of the continuing rapid development of the Yukon school system. It is also related in part to the higher cost of construction in the Territory as compared with the provinces.

The high level of capital expenditure in the Yukon is one of the principal reasons for the very high cost of education, both per capita and per pupil, compared with the rest of Canada. A comparison of the Yukon with the provinces in terms of total (municipal and provincial) expenditures on primary and secondary education (excluding vocational schools) in 1965 (Table 3), reveals that expenditure per pupil in the Yukon is nearly 50 per cent higher than in the province with the next highest expenditure and as much as 4.5 times that of the province with the lowest expenditure. The data on school board expenditure per pupil by type of expenditure (Table 4) confirm that this difference is due largely to the relatively higher Yukon capital expenditure. Capital costs per pupil are five times the average for all provinces whereas operating costs per pupil are only 50 per cent higher. The higher operating

^{1/} Preliminary Statistics of Education, 1966-67,
Cat. No. 81-201, Dominion Bureau of Statistics,
Ottawa, Table 25.

TABLE 3

EXPENDITURES ON ELEMENTARY AND SECONDARY EDUCATION, MUNICIPAL,
AND PROVINCIAL GOVERNMENTS AND YUKON, 1965-66^{1/}

Province	Population ^{2/} (thousands)	Pupils (number)	(per cent)	Total (thousand dollars)	Expenditure	
					Per Pupil	Per Capita
Newfoundland	498.0	145,638	29.2	23,800	163	48
Prince Edward Island	108.0	27,854	25.8	6,928	249	64
Nova Scotia	761.0	199,856	26.3	62,115	311	82
New Brunswick	623.0	165,700	26.6	45,036	272	72
Quebec	5,657.0	1,360,600	24.1	528,485	388	93
Ontario	6,731.0	1,738,781	25.8	807,452	464	110
Manitoba	962.0	222,129	23.1	94,584	426	98
Saskatchewan	951.0	238,320	25.1	105,640	443	111
Alberta	1,451.0	362,159	25.0	175,736	485	121
British Columbia	1,789.0	414,376 ^{3/}	23.2	184,186	444	103
Yukon	14.4	3,178 ^{3/}	22.1	2,423	762	168

^{1/}

Preliminary Statistics of Education, 1966-67, Cat. No. 81-201, Dominion Bureau of Statistics, Ottawa. Yukon calculated separately, from Public Accounts, Yukon Territory, 1965-66, because the Dominion Bureau of Statistics data do not include federal grants, which are an important source of funds in the Yukon, but not in the provinces.

^{2/}

At June 1, 1965.

^{3/}

At September 30, 1965, Annual Report of the Commissioner of the Yukon Territory, 1966-67.

TABLE 4

SCHOOL BOARD EXPENDITURES PER PUPIL, PROVINCES AND YUKON

CALENDAR YEAR 1965^{1/}

Province	Pupils ^{2/} (number)	Operating Costs per Pupil			Total (dollars)	Capital Costs per Pupil	Total Expen- diture from Current Revenue per pupil
		Teachers Salaries	Other	Total			
Newfoundland	145,638	119	39	158	24	182	
Prince Edward Island	27,854	140	47	187	35	222	
Nova Scotia	199,856	167	60	227	41	268	
New Brunswick	165,700	157	50	207	39	246	
Quebec	1,360,600	256	93	349	87	436	
Ontario	1,738,781	219	115	334	74	408	
Manitoba	222,129	200	94	294	53	347	
Saskatchewan	238,320	235	127	362	57	419	
Alberta	362,159	251	121	372	70	442	
British Columbia	414,376	229	111	340	60	400	
Total	4,875,413	225	101	326	70	396	
Yukon	3,164	286	205	491	362	852	

^{1/} Derived from Preliminary Statistics of Education 1966-67, Cat. No. 81-201, Dominion Bureau of Statistics, Ottawa, Tables 1 and 25.

^{2/} Enrolments in elementary and secondary, public and separate schools.

costs are due in part to the generally higher costs in the North and in part to the greater proportion of schools with a very small number of students.

In 1966-67, operation and maintenance costs for education, including vocational training, amounted to \$2,913,522 or 36 per cent of total Territorial operating expenditures. Of this amount, \$927,299 was recovered directly from the federal government as payments for vocational training, and for the education of Indian children and of children of federal employees living in tax-free quarters. As the remaining amount, nearly \$2 million, is more than 70 per cent of total Territorial revenue from its own sources, it is evident that the indirect role of the federal government in providing education, through its operating grant to the Territory, is relatively large.

Teachers

The Committee on Education in the Yukon, reporting in 1960, noted the difficulty of recruiting qualified teaching staff.^{1/} It referred to the diversity of teaching certificates, the number of inexperienced teachers,

^{1/} Report of the Committee on Education in the Yukon Territory, Queens Printer, Ottawa, 1960.

the short tenure of posts and the lack of qualified secondary teachers. The Yukon, it seems, cannot avoid the disparity in teaching certificates so long as it has no training college of its own and the shortage of teachers in other areas compels recruitment wherever they can be obtained. At present there are teachers who have qualified in every province of Canada as well as some from other countries (Table 5). This need not be a disadvantage if teachers stayed long enough in the Territory to ensure continuity in the program of studies. Table 6 shows, however, that in 1965-66 nearly half the teachers (47.5 per cent) were in their first year in the Territory. The extent of the problem may be measured from the fact that this is more than double the proportion with less than one year of tenure in the school system in Canada as a whole.

It is worth noting, however, that the qualifications of Yukon teachers have improved remarkably since the Committee on Education reported in 1960. The proportion of teachers with more than two years of training greatly exceeds the average for Canada (Table 7), and although the proportion with University degrees (Table 8) is still less than the Canadian average, it has increased from 14 per cent in 1959-60 to 26 per cent in 1965-66.

TABLE 5

PROVINCE OF ORIGIN OF CERTIFICATES OF YUKON TEACHERS, 1965-66^{1/}

Origin of Certificate	Number of Teachers
Newfoundland	1
Prince Edward Island	3
Nova Scotia	10
New Brunswick	1
Quebec	1
Ontario	10
Manitoba	19
Saskatchewan	60
Alberta	20
British Columbia	17
United States of America	2
Europe	1
United Kingdom	5
Other	2
Total	152

^{1/} Annual Report of the Commissioner of the Yukon Territory, 1966-67.

TABLE 6

YEARS OF TENURE IN SAME SCHOOL SYSTEM, ELEMENTARY AND SECONDARY
TEACHERS AND PRINCIPALS, CANADA AND YUKON TERRITORY, 1965-66^{1/}

Years	Canada ^{2/}				Yukon	
	Elementary Teachers	Secondary Teachers	Elementary Teachers	Secondary Teachers	Elementary Teachers	Secondary Teachers
	(number)	(per cent)	(number)	(per cent)	(number)	(per cent)
None	18,476	21.7	9,663	22.2	52	51.5
Less than one	2,405	2.7	724	1.3	-	-
One	12,490	14.6	6,625	15.5	12	11.9
Two	8,348	9.8	5,269	13.0	7	6.9
Three	6,006	7.1	3,693	8.3	11	10.9
Four	5,147	6.9	2,541	5.3	4	4.0
Four or more	31,434	37.2	15,315	34.4	15	14.8
Total	84,306	100.0	43,830	100.0	101	100.0
					51	100.0

^{1/} Salaries and Qualifications of Teachers in Public Elementary and Secondary Schools, 1965-66, Cat. No. 81-202, Dominion Bureau of Statistics, Ottawa.

^{2/} Eight Provinces; Quebec, Saskatchewan and Territories are not included.

TABLE 7

CLASSIFICATION OF CERTIFICATES OF ELEMENTARY AND SECONDARY
SCHOOL TEACHERS, CANADA AND YUKON TERRITORY, 1965-66^{1/}

Classification Level ^{2/}	Canada ^{3/}		Yukon	
	(number)	(per cent)	(number)	(per cent)
7	28	-	-	-
6	8,027	6.3	11	7.2
5	21,251	16.8	19	12.5
4	9,453	7.5	18	11.9
3	9,655	7.6	45	29.6
2	59,727	46.8	57	37.5
1	10,120	7.9	-	-
0	9,036	7.1	2	1.3
Special	619	-	-	-
Unclassified	220	-	-	-
Total	128,136	100.0	152	100.0

^{1/} Salaries and Qualifications of Teachers in Public
Elementary and Secondary Schools, 1965-66, Cat. No.
81-202, Dominion Bureau of Statistics, Ottawa.

^{2/} Number of years of training beyond Junior Matriculation level, where "0" is less than 1 year.

^{3/} Eight provinces; Quebec, Saskatchewan and Territories are not included.

TABLE 8

PERCENTAGE OF TEACHERS WITH UNIVERSITY DEGREES

BY PROVINCE AND TERRITORY, 1965-66^{1/}

Province	Elementary	Secondary	Total
	(per cent)		
Newfoundland	5.1	45.6	14.0
Prince Edward Island	2.5	41.0	12.0
Nova Scotia	14.9	61.8	30.0
New Brunswick	6.1	48.1	19.9
Ontario	11.1	81.1	33.7
Manitoba	9.0	68.7	29.3
Alberta	18.9	66.7	38.4
British Columbia	22.5	73.3	44.2
Yukon	6.9	64.7	26.3
Northwest Territories	17.1	54.8	27.2
Indian Schools	13.0	50.8	16.5
Department of National Defence - Overseas)	19.0	92.9	42.5

^{1/} Salaries and Qualifications of Teachers in Public
Elementary and Secondary Schools, 1965-66, Cat. No.
81-202, Dominion Bureau of Statistics, Ottawa.

Sixty-five per cent of secondary teachers have University degrees, a higher proportion than is found in any province except Ontario, Manitoba, Alberta and British Columbia. Finally, the proportion of inexperienced teachers (Table 9) in the Yukon has dropped from 14 per cent in 1959-60 to 4 per cent in 1965-66 (compared with a Canadian average of 10 per cent).

Education of Indians

In 1961 approximately 20 per cent of the school age population (five to 19) was Indian, a rather higher proportion than in the total population. Until fairly recently, however, the Territorial government played no active role in the education of these children, who attended residential schools with religious affiliations or day schools operated by the Indian Affairs Branch of the federal government. After 1951, following recommendations of the Parliamentary Committee concerned with revision of the Indian Act, encouragement was given to the integration of Indian children in provincial schools. This policy was fully supported by the Yukon populace and Indian children were gradually included in the Territorial system; by 1967 all schools, except denominational schools at Carcross and Lower Post, B.C., were fully integrated. The federal government pays the full cost of

TABLE 9

TOTAL TEACHING EXPERIENCE, ELEMENTARY AND SECONDARY TEACHERS

CANADA AND YUKON TERRITORY, 1965-66^{1/}

Years	Canada ^{2/}		Yukon	
	Elementary Teachers	Secondary Teachers	Elementary Teachers	Secondary Teachers
	(number)	(per cent)	(number)	(per cent)
None	8,612	10.2	4,718	10.8
Less than one	226	0.3	159	0.4
One	7,345	8.6	3,875	8.8
Two	6,161	7.4	3,796	8.6
Three	6,127	7.3	3,232	7.4
Four or more	55,835	66.2	28,050	64.0
Total	84,306	100.0	43,830	100.0

Median Experience)	In Elementary Schools In Secondary Schools	Canada		Yukon	
		6.8	6.7	5.6	9.3

- 1/ Salaries and Qualifications of Teachers in Public Elementary and Secondary Schools, 1965-66, Cat. No. 81-202, Dominion Bureau of Statistics, Ottawa.
- 2/ Eight Provinces; Quebec, Saskatchewan and Territories are not included.

educating Indian children, and the Indian Affairs Branch of the Department of Indian Affairs and Northern Development continues to operate residences for Indian children in Whitehorse and Carmacks.

Recognizing that if Indian children are to take full advantage of modern education they must be prepared in advance for the school environment, Yukon residents have recently begun a pre-school program similar to the "Head Start" programs of some metropolitan areas. A kindergarten program is also under consideration by the Department of Education. If successful, these programs may well provide a sound beginning for fuller participation by Indians in the Yukon schools and ultimately in the economy.

Secondary Education

The Committee on Education in the Yukon recommended that, because of the special facilities and staff required, Grades 9 to 12 should be taught only in regularly organized secondary, intermediate or senior schools. Nevertheless, these grades continue to be taught in three combined elementary-secondary schools outside Whitehorse, and lack of accommodation in Whitehorse as well as the disadvantage of hostel life create, from time to time,

greater demands for secondary education in other communities. There is no doubt, however, that the limited facilities and range of subjects which can be provided in these schools must limit the horizons and opportunities of the student. Nor do their numbers, less than 100 in total in the three schools outside Whitehorse, yet permit an expansion of the existing facilities. Furthermore, the distances preclude the establishment of consolidated regional schools such as have been set up in southern communities, though in time this may be a possibility. At the moment there is no satisfactory alternative to the removal of secondary students to Whitehorse and the provision of adequate accommodation for them. At the same time, it must be noted that as the economy develops it should be possible to consider the building of another secondary school outside Whitehorse. Even on the basis of 1966-67 enrolments it is noted that by 1972-73 the demand for secondary school places by pupils outside Whitehorse should exceed 500.

Migration

It was noted above that one of the major problems of the Yukon Department of Education has been the mobility of the teaching staff. Transience is not, however, confined to teachers. It has been one of the

features of the Yukon economy and is reflected similarly in the student population. In the 1966-67 school year, there were 1,160 transfers^{1/} to other public schools in the Territory or elsewhere.

These transfers comprise nearly one-third of total enrolments and even when adjusted for the ordinary movement of pupils from elementary to secondary school, indicates that migration is a significant factor in education.

Future Requirements

Expansion Based on Present Developments

On the basis of mining developments which are already underway in the Territory it can be estimated that the population should reach nearly 22,000 by 1972.^{2/} With this population the number of children in primary and secondary schools should rise to about 5,000 (assuming the same proportion of total population as in 1966-67) or an increase of more than 40 per cent over 1966-67 net

^{1/} Yukon Territorial Council, Sessional Papers, 1967.
Sessional Paper 28.

^{2/} See also Chapter 7 and Chapter 14, The Yukon Economy, Its Potential for Growth and Continuity by D. W. Carr and F.W. Anderson, A report prepared for the Department of Indian Affairs and Northern Development, Ottawa, Queens Printer, 1968.

enrolment. Even without the new developments, however, the age distribution of the population in 1966 indicated that the number of children of school age could increase by 20 to 25 per cent by 1972, and that this increase would be concentrated at secondary school age levels, where expenditure per pupil is highest. These two factors of population increase and age distribution, together with the likely continuing rise in the cost of education per pupil, suggest that the 75 per cent increase in operating expenditures for the period 1967 to 1972 forecast in the Report of the 1967 Interdepartmental Committee on Federal-Territorial Financial Relations may be too low. Moreover, capital costs, projected at about \$500,000 per year after 1968, seem quite insufficient for the estimated increase in enrolment. Although provision has been made for the largest items of new capital expenditure, including the senior secondary school and dormitories in Whitehorse and facilities at Clinton Creek, the expected increase in the number of secondary school pupils may warrant additional facilities outside Whitehorse by 1972.

Expansion Beyond Present Developments

If the economic growth forecast for the Yukon Territory materializes, the Yukon population would be expected to increase to at least 57,000 by 1985. This

population would indicate a school enrolment of some 12,000 pupils at the 1966-67 ratio of enrolment to population and would require at least 500 to 550 classrooms and teachers.

Summary

1. School enrolment in the Yukon Territory has grown rapidly in the last twenty years. More than 3,500 primary and secondary pupils are enrolled in 1967, compared with less than 300 during the war.
2. The number of classrooms has increased from ten during the war to 138 in 1966-67.
3. The cost of education, both per pupil and per capita, is substantially higher in the Yukon than in the rest of Canada (excluding the Northwest Territories). The higher cost has been due principally to higher capital expenditures required to accommodate the rapidly growing number of pupils. It is also due, in part, to the higher cost of living in the North.
4. Since the Committee on Education in the Yukon reported in 1960 there has been an improvement in the qualifications of teachers in the Yukon schools. The proportion of inexperienced teachers has dropped

from 14 per cent of the total in 1959-60 to only four per cent in 1965-66. At the same time the proportion of teachers with more than two years of training and with University degrees has risen substantially. Nevertheless, the high turnover of teachers noted by the Committee on Education still persists. In 1965-66, nearly half the teachers were in their first year in the Territory.

5. Since nearly one-fifth of the population of school age is Indian, the integration of Indian children in the school system has been one of the important features of Yukon education policy in recent years. Now that all but two schools are fully integrated some special programs may be required for a time to ensure that all children can benefit fully from the education offered.
6. The provision of education and in particular the provision of secondary education, to children in remote areas continues to be a pressing problem in the Yukon. Although Grade 12 education is available in four areas, only in Whitehorse does it offer the wide range of facilities recommended by the Committee on Education. In view of the small number of pupils affected in the areas outside Whitehorse there seems

no present alternative to the provision of residential accommodation in Whitehorse. As numbers increase it may be possible to provide comparable education facilities in another area.

7. The present level of new mining development in the Yukon, combined with an expected increase in the proportion of children requiring secondary education, indicate a further substantial rise in expenditure for education in the next several years.
8. Should economic conditions favour the additional developments outlined in the report on minerals, the number of children in elementary and secondary schools may reach 12,000 by 1985, requiring considerable further increase in classroom facilities.

HEALTH SERVICES IN THE
YUKON TERRITORY

by

N. L. Glover

D. Wm. Carr & Associates Ltd.

Ottawa
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C O N T E N T S

Health Services

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HEALTH SERVICES IN THE YUKON TERRITORY

Introduction

The costs of providing the Yukon with health services tend to be higher than in southern areas because these services are ordinarily widely scattered over much inaccessible country and must be provided generally in poor weather, with more limited transportation facilities, poor communications, and limited funds. The Yukon has a small population (14,382 people in 1966) and a relatively large area (207,000 square miles) or 0.07 people per square mile.

History and Development

The three hospitals in the Yukon Territory date from the early part of this century. St. Mary's Hospital in Dawson was established by the Sisters of St. Ann in 1898. Whitehorse General Hospital dates from 1915 and Mayo General Hospital from 1920.^{1/} It was not until after 1945 however, that official responsibility

^{1/} Canadiar Hospital Directory 1965, Canadian Hospital Association, Toronto, 1965.

for development of health services were undertaken. This action is reported to be part of the Government's plan to maintain Canadian sovereignty in the north and to develop a standard of health, welfare, and educational services for the northern people similar to that enjoyed by all Canadians.^{1/}

In October, 1945, the Department of National Health and Welfare took over responsibility for the health of Indians and Eskimos from the Department of Mines and Resources. A Northern Administration Branch of the Department of Mines and Resources came into existence in 1951 to look after all non-resource activity including health services. In 1953, the responsibility for hospitals was taken over by the Territorial government.

The establishment of a Northern Health Services Division in the Department of National Health and Welfare in 1954 was the first real step towards a completely integrated health and hospital administration program. This division was formed to take over all the responsibilities of the Federal and Territorial governments in the field of health and was in fact to act as the Territorial health department.

^{1/} England, F. B., "Administrative and Constitutional Changes in Arctic Territories; Canada", The Arctic Frontier, ed. R. St. J. Macdonald, University of Toronto Press, Toronto, 1966.

In 1957, the old hospital at Mayo was replaced by a new 14 bed hospital. In that year also, there was initiated the first five-year Yukon Health Plan which appointed five public health nurses as compared with one in 1954 and two in 1955. In 1959 the new 120-bed Whitehorse Hospital was opened replacing the old Whitehorse General and Department of National Defence Hospitals. Health centres were built in 1960 at Haines Junction and Watson Lake and in 1963 a health station was established at Ross River.

Another five-year Health Services Plan was prepared and approved in 1962 for expansion plans to 1967. In 1963 St. Mary's Hospital was taken over by the Territorial government from the Sisters of St. Ann. At the same time its capacity was reduced from 25 to ten beds. The health centre at Watson Lake underwent yearly expansion. By 1966 it had become an eight-bed nursing station with additional staff to provide 24-hour service. In 1967 it was reclassified as a cottage hospital and added two more beds.

In addition to this expansion of physical facilities, improvements in services were introduced under Northern Health Service: pre-natal classes, annual chest X-rays, extensive tuberculosis surveys, case-finding surveys, studies on mental health and sanitation problems,

professional advice to the Territorial Hospital Insurance Services Board in connection with improvements to the non-government hospitals, recruitment of medical officers and other personnel including a Sanitarian and a Zone Supervisor of Nurses in 1963, and initiation of a Pilot School Dental Project in Whitehorse, also in 1963.

Existing Services

Most of the existing health facilities have been established since Northern Health Services of the Department of National Health and Welfare took over the responsibility for all services normally carried by a provincial department of health and thus the planning, operations and assessment of health activities in the north.

The Northern Health Service is headed by a director in Ottawa and a regional director in Edmonton. It is comprised of five administrative zones in the Yukon and Northwest Territories, one of which is the Yukon Health Service. The Yukon Health Service is administered by the Zone Superintendent who is also the Chief Health Officer and the Medical Superintendent of Whitehorse General Hospital. The Zone Superintendent with the aid of medical officers, graduate nurses, dentists, administrative and support staff directs the field operations.

The location and population density of an area may influence the type of facility (hospital, clinic, nursing station, health centre or health station) which will be most appropriate for an area. Northern Health Services in their Health Services Plans have set up an "Ideal Scale of Health Services" based on a community's location, population, type of population, economic position, etc.

The Department of National Health and Welfare owns and operates the large 120-bed hospital, Whitehorse General, and the Yukon Territorial government is responsible for the operation of the 16-bed Mayo General Hospital and St. Mary's Hospital in Dawson City which has a capacity of ten beds (Table 1). These hospitals are well equipped and can provide treatment and services comparable to any small hospital in Canada.

The number of available hospital beds per 1000 population in the Yukon at 10.7 in both 1965 and 1966 is one of the highest in Canada. This rate is well above the Canadian average of 6.8 in 1965 and 6.9 in 1966 and surpasses that of every province (Table 2). This available space is not fully utilized however, since the average occupancy for all hospitals in the Yukon was only 40.9 per cent in 1965 and 44.3 per cent in 1966

TABLE 1

SUMMARY OF HOSPITALS AND RELATED INSTITUTIONS, YUKON TERRITORY, 1967^{1/}

Location	Hospital	Category	Type of Hospital	Ownership	Rated Capacity	
					Beds and Cribs	Bassinets
Dawson	St. Mary's Hospital	Public	General	Territory	10	5
Mayo	Mayo General Hospital	Public	General	Territory	16	6
Old Crow	Old Crow Nursing Station	Federal	Miscellaneous	D.N.H. & W.	4	2
Watson Lake	Watson Lake Cottage Hospital	Federal	Miscellaneous	D.N.H. & W.	10	3
Whitehorse	Whitehorse General Hospital (including Nursing Home)	Federal	General	D.N.H. & W.	120	30
Dawson	St. Mary's Nursing Home	-	-	Territory	14	-

^{1/} List of Canadian Hospitals, 1968, Cat. No. 83-201, Dominion Bureau of Statistics, Ottawa, January, 1968.

TABLE 2

BED CAPACITY AND PERCENTAGE OCCUPANCY OF ALL HOSPITALS, PROVINCES

TERRITORIES AND CANADA, 1965 AND 1966^{1/}

Province or Territory	1965			1966 ^{2/}		
	Bed Capacity	Rate Per 1000 Population	Occupancy Percentage	Bed Capacity	Rate Per 1000 Population	Occupancy Percentage
	(number)	(rate)	(per cent)	(number)	(rate)	(per cent)
Newfoundland	2,684	5.4	77.4	3,089	6.1	66.4
Prince Edward Island	722	6.7	66.8	720	6.6	70.0
Nova Scotia	5,048	6.6	73.4	4,938	6.5	77.2
New Brunswick	3,950	6.3	82.7	3,950	6.3	83.5
Quebec	36,397	6.4	82.4	37,280	6.5	79.6
Ontario	46,615	6.9	83.6	47,239	6.9	84.1
Manitoba	6,872	7.1	79.8	6,814	7.1	80.0
Saskatchewan	7,343	7.7	82.8	7,396	7.8	82.0
Alberta	11,839	8.2	78.3	12,976	8.9	74.1
British Columbia	11,908	6.7	83.4	12,030	6.5	84.1
YUKON	160	10.7	40.9	160	10.7	44.3
Northwest Territories	461	18.4	39.8	452	17.4	39.3
CANADA	133,999	6.8	81.7	137,044	6.9	80.6

^{1/} Hospital Statistics, 1966, Preliminary Annual Report, Cat. No. 83-217, Dominion Bureau of Statistics, Ottawa, September, 1967.

^{2/} Preliminary data.

(46.0 per cent at the federal hospitals and 34.6 per cent at the Territorial public hospitals). The average occupancy for Canada was 81.7 per cent in 1965 and 80.6 per cent in 1966 (Table 2).

The number of patient days per 1000 population increased from 1,593.2 in 1965 to 1,722.3 in 1966 but the rate is lower than that for Canada and most of the provinces (Table 3).

One medical clinic is in operation in the Yukon Territory. This clinic is located in Whitehorse General Hospital, under the direction of a Medical Officer and medical practitioners. There were five practitioners providing treatment in 1963-64.^{1/} The clinic combines the out-patient facilities of a hospital with public health functions, including provision of space for health education, pre-natal and post-natal health activities, offices for field nurses and visiting medical practitioners and a dental suite.^{2/}

A key facility in providing health services to remote parts of the area is the nursing station. A nursing station is usually located in the smaller communities

^{1/} Annual Report of the Commissioner of the Yukon Territory, 1963-64.

^{2/} Health Services Plan, Northwest Territories, 1962-67, Department of National Health and Welfare, Northern Health Service, February, 1962.

TABLE 3

ESTIMATED PATIENT DAYS AND RATE PER 1000 POPULATION, ALL HOSPITALS

PROVINCES, TERRITORIES AND CANADA, 1965 AND 1966^{1/}

Province or Territory	1965		1966 ^{2/}	
	Patient Days	Rate Per Thousand	Patient Days	Rate Per Thousand
(number)				
Newfoundland	740,351	1,486.6	736,136	1,457.7
Prince Edward Island	176,112	1,630.7	183,844	1,686.6
Nova Scotia	1,351,711	1,776.2	1,391,923	1,831.5
New Brunswick	1,191,012	1,911.7	1,196,982	1,901.1
Quebec	10,799,589	1,909.1	10,818,779	1,883.5
Ontario	14,247,139	2,116.6	14,438,931	2,094.1
Manitoba	2,000,730	2,079.8	1,989,442	2,076.7
Saskatchewan	2,218,880	2,333.2	2,213,818	2,320.6
Alberta	3,365,201	2,319.2	3,394,026	2,318.3
British Columbia	3,521,771	1,968.6	3,692,618	1,983.1
YUKON	23,898	1,593.2	25,834	1,722.3
Northwest Territories	62,440	2,497.6	64,822	2,493.2
CANADA	39,698,834	2,028.5	40,147,155	2,015.5

1/ Hospital Statistics, 1966, Preliminary Annual Report, Cat. No. 83-217, Dominion Bureau of Statistics, Ottawa, September, 1967.

2/ Preliminary data.

that lie outside the large community where the hospital is located. Estimates for nursing stations in the Northwest Territories show they serve from 200 to 1,000 people and cost approximately \$75,000 to \$150,000 to construct.^{1/} There is one nursing station in the Yukon Territory at Old Crow with a capacity of four beds. Until 1966-67 Watson Lake had an eight-bed nursing station but in that year it was extended to a cottage hospital with ten beds. There are usually two or three nurses at a nursing station, one of which is a field nurse who travels on circuit to the small settlements around the station. The circuit nurse may be assisted by a native health worker, if she is travelling long distances, to act as a companion and interpreter. Similarly, there may be resident community health workers in the communities able to provide first aid, home nursing and reports on local health conditions.

At the nursing station itself, the nurses provide treatment for emergency cases and short term illnesses. In addition, public health services and preventive services are undertaken including pre-natal and post-natal care, child health conferences, school health programs, contact and follow-up services in tuberculosis

^{1/} Health Services Plan, Northwest Territories, 1962-67, Department of National Health and Welfare, Northern Health Service, February, 1962.

(Table 4) and venereal disease and delivery of children. Medical staff also make periodic visits to the nursing stations for clinics.

Northern Health Services also provide four Health Centres in the Yukon Territory, at Dawson, Haines Junction, Mayo and Whitehorse. Similar in function to a nursing station the health centres are within access of hospitals, employ one to three public health nurses but provide no beds.

In smaller settlements, such as Ross River, a health station is provided to accommodate doctors or nurses on their treatment visits or for emergency patients awaiting evacuation to a nursing station or hospital.

In remote areas where no staff are posted and frequent visits by doctors or nurses are impossible, the health department enlists the help of local responsible persons as "lay dispensers", who supervise a stock of emergency drugs, keep the nearest health station informed as to local health conditions and give first aid.

Other services are provided to ensure the good health of the people of the Yukon. Development of an emergency medical pack designed to deal with common medical emergencies is being distributed to isolated Indians and to non-Indian hunters and trappers who move out

TABLE 4

ANTI-TUBERCULOSIS ACTIVITIES, YUKON TERRITORY, 1960-65^{1/}

Year	Persons Vaccinated with BGG	Tuberculin Survey Tests	Tuberculosis Clinic and Dispensary Examinations	X-Ray Survey Examinations	X-Ray Examinations of General Hospital Admissions
			(number)		
1960	21	-	5,978	7,614	-
1961	48	441	498	4,956	2,252
1962	15	2,613	529	4,562	3,303
1963	565	2,402	997	8,149	4,650
1964	722	12,912	101	9,569	888
1965	603	1,846	116	4,886	1,726

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^{1/} Tuberculosis Statistics, Vol. I, Tuberculosis Morbidity and Mortality,
Cat. No. 83-206, Dominion Bureau of Statistics, Ottawa.

of reach of medical facilities. Minimum training of Indian health workers in public health and sanitation is also being undertaken so these people may help the members of their own community.

Evacuation services for the seriously ill, or those who need hospital care, can usually be arranged quite quickly from health centre or nursing station to a Yukon hospital or, if adequate services cannot be provided there, to hospitals in the south. Arrangements for care of tuberculosis or cancer patients or the mentally ill have been made with hospitals in Alberta and British Columbia. Visits by specialists from the south or university medical schools are also made in the North.

There are only three dentists for the whole Yukon as listed in the 1967 Yukon telephone directory, or about 4,400 patients per dentist. But school dental services including fillings and extractions are being expanded in the Yukon.

In 1966 there was one full time salaried medical officer employed by the federal government and nine physicians in private practice. This gave an average of 1,592 patients per doctor. The Canadian average was 881 in 1962. Of these nine doctors however, seven were located in Whitehorse, one in Mayo and one in Elsa, the

latter a company doctor for United Keno Hill Mines. Whitehorse, therefore, has a very good ratio of doctors to population, about 682 per doctor but there was very limited doctor service for other parts of the Yukon. In addition, there is a chiropractor and an optometrist in Whitehorse.

The labour force employed in health services per 1,000 of population in the Yukon in 1961 was only ten per cent lower than the Canadian average. Five of the provinces were 16 to 30 per cent higher than the Yukon however, and only Newfoundland, Quebec and the Northwest Territories were lower (Table 5).

The Yukon has fewer hospital personnel per 100 rated beds. The Yukon was 57 per cent lower than the Canadian average in 1964 (Table 6). There were 75 federal and public hospital nursing staff employed in 1965 (Table 7). In 1966 there were 11 graduate nurses working in field stations.^{1/}

Cost-Sharing

From 1957 to 1962 under the first health services plan, the cost sharing formula for capital and operating expenditure was established at 70 per cent

^{1/} Provincial Health Services by Province, Health Care Series No. 20, Department of National Health and Welfare, Research and Statistics Directorate, Ottawa, November, 1966.

TABLE 5

LABOUR FORCE EMPLOYED IN HEALTH SERVICES
PROVINCES, TERRITORIES AND CANADA, 1961^{1/}

Province or Territory	Health Personnel	Population	Health Personnel Per 1000 Population
		(number)	
Newfoundland	4,469	457,853	9.7
Prince Edward Island	1,503	104,629	14.3
Nova Scotia	10,969	737,007	14.8
New Brunswick	8,961	597,936	14.9
Quebec	66,695	5,259,211	12.6
Ontario	105,413	6,236,092	16.9
Manitoba	15,619	921,686	16.9
Saskatchewan	16,164	925,181	17.4
Alberta	21,595	1,331,944	16.2
British Columbia	29,663	1,629,082	18.2
YUKON	205	14,628	14.0
Northwest Territories	293	22,998	12.7
CANADA	281,549	18,238,247	15.4

^{1/} Census of Canada: Labour Force, 1961, Cat. No. 94-531
and Census of Canada: Population, 1961, Cat. No. 92-542,
Dominion Bureau of Statistics, Ottawa, includes labour
force employed in hospitals, offices of physicians,
offices of dentists and other health services.

TABLE 6

FULL TIME PERSONNEL EMPLOYED IN OPERATING PUBLIC, PRIVATE

AND FEDERAL HOSPITALS, PROVINCES, TERRITORIES AND CANADA, 1964^{1/}

Province or Territory	General Hospitals		General and Allied Special Hospitals	
	Total Personnel	Employees Per 100 Rated Beds	Total Personnel	Employees Per 100 Rated Beds
			(number)	
Newfoundland	4,194	172.9	4,407	170.9
Prince Edward Island	907	131.1	943	130.6
Nova Scotia	8,152	174.5	8,455	174.1
New Brunswick	7,253	190.9	7,484	187.2
Quebec	56,857	210.6	64,913	184.6
Ontario	70,303	181.7	77,250	167.8
Manitoba	9,714	170.1	11,101	163.9
Saskatchewan	10,660	155.3	11,006	147.7
Alberta	14,388	155.6	16,379	140.0
British Columbia	15,830	145.7	16,384	143.8
YUKON	147	100.7	153	95.0
Northwest Territories	335	80.1	388	80.7
CANADA	198,740	179.8	218,863	166.7

^{1/} Canada Year Book, 1967, Dominion Bureau of Statistics, Ottawa, March, 1967.

TABLE 7

FEDERAL AND PUBLIC HOSPITAL NURSING STAFF EMPLOYED
IN REPORTING HOSPITALS AT DECEMBER 31, 1965^{1/}

Type	Federal Hospitals	Public Hospitals	Total
	(number)		
Directors and Supervisors	1	1	2
Head Nurses	8	1	9
General Duty Nurses	27	10	37
Other	3	-	3
Qualified Nursing Assistants	22	-	22
Orderlies	2	-	2
Total	63	12	75

^{1/} Hospital Statistics, Vol. III, Hospital Personnel, Cat.
No. 83-210, Dominion Bureau of Statistics, Ottawa.

Territorial responsibility and 30 per cent federal. In the 1962 health services plan the sharing formula was changed to represent the particular responsibilities of each government. The shares were calculated on the basis of the percentage composition of the ethnic groups in each health district according to the 1961 Census. The Medical Services Branch is responsible for the cost of public health services to Indians and Eskimos and the Territorial government is responsible for the costs applicable to the remainder of the population. The Territorial government assumed financial responsibility in the four major areas of venereal disease control, tuberculosis control, cancer control and mental health services in 1965-66. The expenditure by the Territorial government in these four areas amounted to \$112,736 in 1965-66 and \$103,152 in 1966-67.^{1/} The federal government contributed a grant of \$57,611 in 1965-66 for mental health and tuberculosis control.^{2/} The federal government has provided grants totaling \$472,466 for general health and hospital construction from 1948 to 1965 (Table 8).

The Territorial government is responsible for the operation of the Mayo General Hospital and St. Mary's

^{1/} Public Accounts, 1966-67, Government of the Yukon Territory.

^{2/} Annual Report 1965-66, Department of National Health and Welfare, Ottawa, 1967.

TABLE 8

STATEMENT OF PAYMENTS OF GENERAL HEALTH AND HOSPITAL
CONSTRUCTION GRANTS TO THE YUKON TERRITORY
1948-49 TO 1965-66^{1/}

Type of Grant	Amount
	(dollars)
Hospital Construction	23,855
Health Survey	-
Laboratory and Radiological Services	-
Venereal Disease Control	724
General Public Health	36,308
Tuberculosis Control	241,239
Mental Health	163,301
Professional Training	605
Cancer Control	461
Public Health Research	-
Medical Rehabilitation and Crippled Children	-
Child and Maternal Health	5,973
Total	472,466

^{1/} Annual Report 1965-66, Department of National Health and Welfare, Ottawa, 1967. The grants policy was started in 1948.

in Dawson. The costs of operating hospitals in the Yukon are very high compared with the rest of Canada. The public hospital expense per patient-day of \$52.87 in 1966 is 47 per cent higher than the average for Canada (Table 9).

The Whitehorse General Hospital operating rate is in excess of \$41 per patient-day.^{1/} This hospital operates with a heavy annual deficit, amounting to \$286,670 in 1964 and \$355,988 in 1965,^{2/} for which the federal government assumes responsibility. The Yukon Hospital Insurance Services Plan of the Territorial government pays a maximum of only \$30 per patient-day. Previous to 1967 this ceiling was \$25. The increase applies from 1967 to 1970 and is designed as a step toward the proposed take-over of Whitehorse General Hospital as a budget-review hospital by the Yukon Territorial government in 1970. The Territorial share of the cost of the Yukon Hospital Insurance Services is a charge against the general revenues of the Territorial government. In 1966, 83.8 per cent of total patient-days were charged to this plan. This is compared with 91.5 per cent for all of Canada.^{3/}

^{1/} Report on the Yukon Territory, 1967, Interdepartmental Committee on Federal-Territorial Financial Relations. Many southern hospitals operate at \$35 to \$45 per day.

^{2/} Ibid. This excludes depreciation.

^{3/} Hospital Statistics, 1966, Preliminary Annual Report, Cat. No. 83-217, Dominion Bureau of Statistics, Ottawa, September, 1967.

TABLE 9

PUBLIC HOSPITAL EXPENSE PER PATIENT-DAY
PROVINCES, TERRITORIES AND CANADA, 1965 AND 1966^{1/}

Province or Territory	1965	1966 ^{2/}
	(dollars)	
Newfoundland	28.34	32.71
Prince Edward Island	24.43	26.61
Nova Scotia	32.05	34.04
New Brunswick	30.03	32.39
Quebec	36.32	43.94
Ontario	32.15	35.62
Manitoba	27.90	31.29
Saskatchewan	27.65	28.60
Alberta	25.89	29.86
British Columbia	29.37	31.76
YUKON	51.73	52.87
Northwest Territories	27.68	38.79
CANADA	31.92	36.00

^{1/} Hospital Statistics, 1966, Preliminary Annual Report,
 Cat. No. 83-217, Dominion Bureau of Statistics, Ottawa,
 September, 1967.

^{2/} Preliminary data.

While the cost of operating hospitals in the Yukon is high, a percentage breakdown of expenses by type shows that the pattern does not differ greatly from hospitals of the same size and type in the rest of Canada (Table 10). It may be assumed therefore, that expenses of all items tend to be higher for the Yukon.

Problems

The harsh climate, isolation, tradition, transportation and communication problems can inhibit the effectiveness of health services in any northern region. The infant mortality rate is generally indicative of the effectiveness of health services in an area (Table 11). The infant mortality rate for the Yukon is more than double that for the whole of Canada and is higher than that in other northern countries.

Poor nutrition, poor housing and lack of knowledge of home hygiene, simple first aid and home nursing are responsible for much of the sickness and death among the native peoples. The health of Indians is generally poor and the general health situation in the Yukon tends to be low also. The death rate in the Yukon is one of the lowest in Canada (Table 11), but the life expectancy in the Yukon is only 32.4 years for women and 44.8 years

TABLE 10

ESTIMATED TOTAL EXPENDITURE BY TYPE OF EXPENSE OPERATING
PUBLIC HOSPITALS, YUKON TERRITORY AND CANADA, 1966^{1/}

Type of Expense	Yukon	Canada	
	General 10-24 Beds	All General	General 10-24 Beds
(per cent)			
Departmental			
Gross Salaries and Wages	59.4	65.4	60.0
Medical and Surgical Supplies	4.4	3.2	2.5
Drugs	3.0	3.8	4.8
Other Supplies and Expense	27.9	21.2	25.0
Non-Departmental			
Other Revenue Fund Expense	5.3	6.4	7.7
Total	100.0	100.0	100.0

^{1/} Hospital Statistics, 1966, Preliminary Annual Report,
Cat. No. 83-217, Dominion Bureau of Statistics, Ottawa,
September, 1967.

TABLE 11

PRINCIPAL VITAL STATISTICS, CANADA, PROVINCES, TERRITORIES

AND SELECTED COUNTRIES, 1965^{1/}

Country or Province	Births ^{2/}	Deaths ^{2/}	Infant Mortality ^{3/}	Neonatal Mortality ^{4/}	Maternal Mortality ^{5/}
CANADA	21.4	7.6	23.6	16.3	3.2
Newfoundland	29.6	6.5	31.1	17.2	3.4
Prince Edward Island	23.3	9.6	29.4	19.5	n.a.
Nova Scotia	21.7	8.3	23.8	15.9	5.4
New Brunswick	22.8	7.6	23.0	14.7	3.5
Quebec	21.3	6.8	26.2	18.4	3.5
Ontario	21.0	8.1	20.5	15.1	3.1
Manitoba	20.8	8.0	23.0	15.2	3.0
Saskatchewan	21.5	7.8	24.5	16.3	4.4
Alberta	22.5	6.6	24.0	17.1	1.2
British Columbia	18.8	8.8	20.7	13.7	3.0
YUKON	28.5	6.7	49.1	25.7	n.a. ^{6/}
Northwest Territories	47.6	7.9	63.8	26.0	8.4
Denmark	18.0	10.1	18.7	14.8	1.6
Finland	17.0	9.7	17.4	13.7	4.2
Norway	17.5	9.1	16.8	11.9	2.3
Sweden	15.9	10.1	14.2	11.7	2.0
U.S.S.R.	18.5	7.3	28.0	n.a.	n.a.

1/ Vital Statistics, 1965, Cat. No. 84-202, Dominion Bureau of Statistics, Ottawa, July, 1967.

2/ Per thousand population.

3/ Mortality per thousand live births within the first year.

4/ Mortality per thousand live births within the first 28 days.

5/ Per ten thousand live births.

6/ Data for 1965 was not available but the annual average for the years 1956 to 1960 was 4.0 maternal deaths per ten thousand live births.

for men as compared with the Canadian average of 63.1 and 59.7 in 1961. The death rates up to age 44 are all higher for the Yukon than for the whole of Canada (Table 12).

The native Indians and Eskimos are particularly susceptible to infectious diseases such as measles and to pneumonia and respiratory system infections. The incidence of tuberculosis has declined in the last ten years so that it is approaching the Canadian average (Tables 13 and 14). Yukon tuberculosis patients usually require a longer treatment period however, and when cured are likely to contract tuberculosis again when they return to the same type of living conditions which caused it initially. Venereal disease, alcoholism and accidents are also prevalent in the Yukon Territory.

The environment of the north has had an adverse effect on some of the residents and immigrants to the area because of the necessary adjustment to the new conditions, and mental illness has resulted in some cases. The established residents, especially the Indians, must adjust to the changes brought from the south and to the uprooting of their traditional way of life. The immigrants must adjust to a new way of life in a land that has few of the amenities of their former homes. There

TABLE 12

DEATH RATES BY AGE, YUKON AND CANADA, 1965^{1/}

Age Class	<u>Deaths Per 1000 of Population</u>	
	Yukon	Canada
	(number)	
Under 1 year	49.1	23.6
1 - 4	1.5	1.0
5 - 9	1.0	0.5
10 - 14	-	0.4
15 - 19	2.0	0.8
20 - 24	3.8	1.2
25 - 29	4.4	1.1
30 - 34	3.3	1.3
35 - 39	3.1	1.8
40 - 44	5.0	2.8
45 - 49	3.8	4.4
50 - 54	4.3	7.5
55 - 59	22.0	11.4
60 - 64	33.3	18.3
65 - 69	6.7	27.5
70 - 74	25.0	43.5
75 - 79	60.0	67.4
80 - 84	n.a.	109.3
85 Plus	n.a.	202.4
Total	6.7	7.6

^{1/} Vital Statistics, 1965, Cat. No. 84-202, Dominion Bureau of Statistics, Ottawa, July, 1967.

TABLE 13

DEATHS FROM TUBERCULOSIS, NUMBER AND RATE
YUKON TERRITORY AND CANADA, 1945-65^{1/}

Year	Yukon		Canada	
	Deaths	Deaths per 1000 Population	Deaths	Deaths per 1000 Population
		(number)		
1945	21	4.2	5,694	.5
1946	19	2.4	5,941	.5
1947	18	2.3	5,571	.4
1948	13	1.6	4,887	.4
1949	16	2.0	4,382	.3
1950	15	1.9	3,679	.3
1951	9	1.0	3,481	.2
1952	5	1.0	2,538	.2
1953	5	1.0	1,861	.1
1954	2	.2	1,593	.1
1955	3	.3	1,403	.1
1956	-	-	1,256	.1
1957	1	.1	1,183	.1
1958	-	-	1,027	.1
1959	1	.1	959	.1
1960	1	.1	823	.1
1961	1	.1	769	-
1962	-	-	785	-
1963	-	-	756	-
1964	-	-	670	-
1965	-	-	697	-

^{1/} Tuberculosis Statistics, Vol. I, Tuberculosis Morbidity and Mortality, Cat. No. 83-206, Dominion Bureau of Statistics, Ottawa.

TABLE 14

NEW ACTIVE CASES OF TUBERCULOSIS, NUMBER AND RATE
YUKON TERRITORY AND CANADA, 1955-65^{1/}

Year	<u>Yukon</u>		<u>Canada</u>
	New Cases	New Cases per 1000 Population	New Cases per 1000 Population
		(number)	
1955	29	2.64	.55
1956	7	.57	.49
1957	13	n.a.	.46
1958	13	n.a.	.42
1959	14	.77	.38
1960	13	n.a.	.35
1961	14	.93	.33
1962	6	.40	.34
1963	7	.47	.30
1964	2	.12	.24
1965	10	.67	.25

^{1/} Tuberculosis Statistics, Vol. I, Tuberculosis Morbidity and Mortality, Cat. No. 83-206, Dominion Bureau of Statistics, Ottawa.

is also some evidence to suggest that the long periods of darkness in the winter months result in periods of depression for both Indians and immigrants.

A major problem of health services is one of logistics that is, having adequate facilities in the right spot, at the right time. Most of the Indians are residents of specific settlements but they may travel extensively for part or all of the time in search of fish, game and fur. These people ordinarily miss the visit of the doctor or nurse to their settlements and thus miss the benefits of the clinic treatment and immunization. Even the circuit nurse's visit would be only for a few hours, perhaps twice a year. In these circumstances, it is almost impossible to have adequate follow-up services. In cases of emergency, isolated families or isolated communities may be several days journey from a health station or nursing station where they can receive adequate attention. This makes an effective 24-hour communication system necessary between all settlements and health facilities.

The problem of attracting and keeping qualified personnel is also acute in the Yukon. Doctors and nurses with enthusiasm, initiative and imagination are needed to enlarge the services and plan new methods of attacking the problems. At present, too few are attracted to permanent practice.

Improvements

Even if we assume that there will be little growth in the economy of the Yukon, there is still a great deal to be accomplished in the field of health. More qualified personnel must be attracted to the Yukon and they must be encouraged to stay for longer periods of time. For this purpose, the Royal Commission on Health Services has recommended providing attractive working conditions, including housing, paid vacations with allowances for transportation expenses, compassionate leave and educational leave, and through upgrading of positions and competitive and attractive salaries (Tables 15 and 16).^{1/}

To compensate for this shortage of professional personnel the training of lay workers can be of some assistance. Refresher courses, manuals and better equipment for the lay dispenser will increase his effectiveness. Similarly, training of residents as nursing assistants or community health workers in the basics of first aid, infant feeding and hygiene and even the simplest home nursing of infants and children would combat some of the health problems and relieve the nurses for other preventive and treatment measures.

^{1/} Royal Commission Health Services, Vol. II, Queens Printer, Ottawa, 1965, p. 283.

TABLE 15

REMUNERATION OF MEDICAL AND DENTAL OFFICERS, NORTHERN HEALTH SERVICE
NORTHWEST AND YUKON TERRITORIES, 1962^{1/}

Classification of Officer	Maximum Salary ^{2/} and Allowances	Minimum Salary ^{3/} and Allowances	Average of Officers Presently Employed
	(dollars)		
Medical Specialist	By Order-in Council	15,900	13,988
Medical Officer 2	11,400	10,320) 10,676
Medical Officer 5	16,300	15,400)
Dental Officer 2	12,400	10,860	None at present

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^{1/} Health in Canada's North, Department of National Health and Welfare, Northern Health Service, Ottawa, November 13, 1962.

^{2/} Maximum salary for the grade plus maximum cost of living allowances (\$2,100 for married man with children).

^{3/} Minimum salary for the grade plus maximum cost of living allowances (\$2,100 for married man with children).

TABLE 16

AVERAGE NET PROFESSIONAL INCOMES OF PHYSICIANS
AND SURGEONS, BY PROVINCE, 1964^{1/}

Province	Net Professional Income ^{2/}
	(dollars)
Newfoundland ^{3/}	16,981
Prince Edward Island	16,478
Nova Scotia	17,851
New Brunswick	19,255
Quebec	18,534
Ontario	22,247
Manitoba	17,879
Saskatchewan	23,879
Alberta	21,117
British Columbia	19,560

^{1/} Canada Year Book, 1967, Dominion Bureau of Statistics,
Ottawa, March, 1967.

^{2/} Gross professional incomes less expenses of practice.

^{3/} Includes the salaries of Cottage Hospital Medical Plan doctors.

Continuation and expansion of the practice of encouraging medical specialists in the south to visit the Yukon for consultation and seminars would increase the quality of service which local doctors can provide.

Continued expansion of the telecommunications system on a 24-hour basis between outlying settlements and lay dispensers and health centres with full facilities would speed the implementation of necessary treatment.

An increase in the amount of dental care is becoming necessary. With only three dentists in the whole Territory implementation of dental health programs such as that carried out in Whitehorse is needed in more centres.

If the Yukon economy expands as projected, in addition to the improvements noted above, health services will have to expand at an even greater rate in order to provide adequate service for the new residents which may be expected.

Summary and Recommendations

1. The Northern Health Services Division of the Department of National Health and Welfare took over both federal and Territorial responsibilities for health in 1954. Public health service and treatment had

already been initiated and Indian health services had built a system of Indian nursing stations but integration of all forces was needed. At present, only Mayo General Hospital, St. Mary's Hospital and the Yukon Hospital Insurance Services are administered by the Territorial government.

2. Services have grown substantially since 1955 with the addition of a new 14-bed hospital at Mayo, a 120-bed hospital at Whitehorse, a ten-bed cottage hospital at Watson Lake, a health centre at Haines Junction and health station at Ross River. Public health care, education and sanitation practices have also increased substantially.
3. Three five-year Health Services Plans have been approved and put into operation. These plans provide for the planning, direction and co-ordination of the expansion of facilities for developing reasonably adequate health services for all residents, having regard for economic factors which impose stringent limitations on some areas.^{1/}
4. Present facilities include three hospitals with a total capacity of 146 beds, one ten-bed cottage hospital at Watson Lake, one four-bed nursing

^{1/} See also, Health Services Plan, Northwest Territories, 1962-67, Department of National Health and Welfare, Northern Health Service, February, 1962.

station at Old Crow, four health centres at Dawson, Haines Junction, Mayo and Whitehorse, a health station at Ross River and a clinic in Whitehorse.

5. The cost of health services is shared by the federal and Territorial government according to the responsibility of each government in each health district.
6. Poor nutrition, poor housing and poor sanitation are reported to be the main causes of sickness and death in the Yukon, especially among the Indians.
7. The main problems facing Northern Health Services are those of the location of facilities and services where they can be most effective and of attracting qualified medical personnel.
8. Improvements required, even with little economic growth in the Yukon, would be increasing the number of medical personnel, educating residents as community health workers, expanding health education, increasing transportation and communication services and a more intensive dental health program.
9. With projected economic expansion, increases in all types of medical services would be needed especially in personnel.

WELFARE SERVICES IN THE
YUKON TERRITORY

by

Joan Gherson

D. Wm. Carr & Associates Ltd.

Ottawa
September, 1968

C O N T E N T S

Welfare Services

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WELFARE SERVICES

Introduction

In common with the experience of most of the provinces, welfare services in the Yukon have changed rapidly in recent years from an area of voluntary private action to one of mainly government concern. Traditionally and constitutionally welfare is regarded as a matter primarily for provincial and municipal activity. Since World War II, however, the federal government has assumed the major spending role because most provinces could not support the tremendous growth in social welfare expenditures caused by rapid population growth, urbanization and industrialization, large numbers of children and old people in the population, and other new demands in welfare services.

The federal role is particularly important in the Yukon where, in addition to its share of general welfare costs, it has primary responsibility for the welfare of Indians, who make up 15 per cent of the population.

Description of Existing Services

Residents of the Yukon Territory participate fully in all federal welfare and social security schemes, such as the Canada Pension Plan, Old Age Security and Family and Youth Allowances. In addition, the Territorial government, through the Department of Welfare, assists needy persons, provides care for neglected children and the aged and provides a wide range of preventive and rehabilitative welfare services. The cost of many of these programs is shared with the federal government.

Territorial assistance to needy persons is of two types: categorical assistance to specific classes of persons, available to all residents who qualify, and general assistance to needy persons or families, which is available only to non-Indians. General assistance to Indians is provided directly by the federal government.

Categorical assistance, in the form of pensions or allowances to a maximum of \$75 per month may be paid to the following persons on a means test basis:

- (a) totally or permanently disabled persons over the age of 18 years;
- (b) blind persons over the age of 18 years;

- (c) persons over the age of 65, but below the qualifying age for federal old age security. This category will disappear in 1970 when that qualifying age will become 65.

The federal government assumes 50 per cent of the Old Age Pensions and Disabled Persons Allowances and 75 per cent of Blind Persons Allowances.

The number of persons who are eligible for categorical assistance in the Yukon is very small, and in fact would appear to be considerably smaller in relation to population than elsewhere in Canada. In March, 1967, Yukon recipients of all types of categorical assistance numbered only 34 or 0.2 per cent of the population, compared with 0.65 per cent for Canada as a whole.^{1/}

The Territorial general assistance program provides allowances and material aid to needy persons and families either for basic necessities or to meet unusual needs. It also covers supplementary allowances or assistance to aged or disabled persons whose benefits under categorical assistance programs are insufficient to maintain an adequate standard of living. Assistance to the aged includes boarding or nursing home care and

^{1/} Canada Year Book, 1967, Queens Printer, Ottawa,
p. 316-7.

accommodation in senior citizens homes. Medical and other health services and social casework services are also made available to recipients of social assistance. Up to 50 per cent of the Territory's expenditures for general assistance is recoverable from the federal government.

From Table 1, showing the amount of direct Territorial expenditure for categorical and general assistance in recent years, it is evident that general assistance accounts for the main part of these expenditures. If the table included general assistance to Indians, which is provided directly by the federal government, these expenditures would be substantially increased.

In addition to the general and categorical assistance programs, the Territorial Department of Welfare provides child welfare, family counselling, alcoholism and probation services and nursing and residential accommodation for the aged.

Child welfare services include protection services for neglected children, child care services, an adoption program and services to unmarried parents. Responsibility for child welfare was assumed by the Territorial government in 1960. Previously, the Childrens

TABLE 1

SOCIAL ASSISTANCE EXPENDITURE BY CATEGORY

YUKON TERRITORY, 1961-62 TO 1966-67^{1/}

Year	Old Age Assistance	Allowance for Blind Persons	Allowance for Disabled Persons	General Assistance ^{2/}
(dollars)				
1961-62	31,619	2,200	3,218	90,110
1962-63	32,172	3,239	4,715	105,806
1963-64	26,887	3,300	4,818	119,697
1964-65	27,790	3,970	2,063	100,318
1965-66	28,871	5,775	2,325	95,209
1966-67	18,766 ^{3/}	5,625	2,700	95,663

^{1/} Public Accounts, Government of the Yukon Territory.

^{2/} Direct payments for unemployment and social assistance only. Excludes cost of health services and welfare counselling services provided to recipients as well as operation of senior citizens' homes. General assistance is available to non-Indians only.

^{3/} The decline is due to the lowering of the age of eligibility for the Canada Pension Plan and consequent fewer numbers requiring Territorial assistance.

Aid Society had provided services with a grant from the Territory. Since 1964, these Child Welfare Services have been extended to Indian children, with the Indian Affairs Branch assuming financial responsibility for care provided.

The preventive and rehabilitative welfare services provided by the Territorial Department of Welfare are relatively new. The probation service was started in 1964 and family counselling and alcoholism services began in 1966.

Services provided by the Department for the benefit of elderly persons include senior citizens homes in Dawson and Whitehorse and a nursing home in Dawson, which the Territory took over from the Order of the Sisters of St. Ann in 1963. Expenditure for the latter is perhaps more properly included in health services for purposes of analysis or comparison with other provinces. It is worth noting that in the Yukon the proportion of old people covered in the population is considerably smaller than in the rest of Canada (3.3 per cent in the Yukon compared with 7.6 per cent in Canada in 1961) so that their care is a relatively smaller burden in terms of numbers.

Total expenditure for welfare, including capital expenditure has increased from \$241,630 in

1960-61 to \$453,810 in 1966-67 (or \$559,734 if the operation of St. Mary's Nursing Home is included). Most of the increase is due to the provision of new services and an increase in the cost of child care services. Expenditure per capita (excluding nursing home expenditures) was approximately \$32.

In 1963-64, the last year for which figures of provincial-municipal expenditures are available for all the provinces, per capita welfare expenditure in the Yukon (again excluding nursing home expenditure) was \$24, compared with \$28 for all provinces together. Yukon expenditures do not, however, include general assistance payments to Indians, which, as noted above, is a federal responsibility. If these were included Yukon per capita welfare costs would exceed these of the provinces, though the range of services is less than in some provinces.

Welfare Problems

The majority of social problems in the Yukon have been linked to excessive drinking.^{1/} The Alcoholism program started by the Welfare Department in 1966 is designed to try to reduce such problems through research,

^{1/} Annual Report of the Commissioner of the Yukon Territory, 1966-67.



education, treatment and counselling. Treatment is through Alcoholics Anonymous. As yet, there are no treatment centres such as have been started in several provinces.

The principal manifestation of social problems in the Territory is the number of child care and protection cases handled by the Welfare Department. Table 2, showing the casework of principal welfare services, indicates a very large increase in the number of such cases handled in recent years. While part of this increase, which occurred in a period when population was not increasing, may be attributed to the extension of departmental activities to areas not previously covered, there is evidence that much of it is due to an increase in family problems, particularly among Indians. Although Indian children comprise only about 15 per cent of the population under the age of 16, they accounted for nearly half of the child care and protection cases handled in 1966.^{1/} Since each case involves an average of 2.4 children, it would appear that some 600 Indian children or nearly half the total number under 16 may be affected.

^{1/} Yukon Territorial Council, Sessional Papers, 1967 session, Sessional Paper No. 50.



TABLE 2

CASELOAD OF PRINCIPAL WELFARE SERVICES, YUKON TERRITORY, 1961-62 TO 1966-67^{1/}

	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
	(number of cases)					
Child Care	166	268	271	302	300	307 ^{2/}
Protection	119	120	156	140	116	223
Adoption	55	64	68	76	81	53
Unmarried Parents	57	20	17	30	29	41
Total Child Care	397	472	512	548	526	624
General Assistance		504	571	399	400	484
Categorical Assistance		45	67	56	50	47

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^{1/} Annual Reports of the Commissioner of the Yukon Territory.

^{2/} Includes 53 family service cases.

Direct expenditure for child welfare services (Table 3), which is largely expenditure for the maintenance of children in foster home or boarding care, has more than doubled since 1961, though per diem costs have actually declined. Child care is now the largest single item of direct welfare expenditure, accounting for 25 per cent of the departmental budget, and with the opening of the Children's Group Home, it will require an even greater share of the increased budget.^{1/}

Future Requirements

Past experience is not likely to be an accurate guide in charting the likely course of welfare expenditures which could result from the projected increased economic activity in the Territory. Yet past experience of an upsurge in activity in the Yukon (for example, the building of the Alaska Highway) indicates an increase in social problems and this possibility is to some extent confirmed by the trend of the past year.^{2/} On the other hand, developments in education and the preventive welfare services as well as the provision of townsites and other

^{1/} Yukon Territorial Council, Sessional Papers, 1967
(2nd Session) Sessional Paper No. 62.

^{2/} Annual Report of the Commissioner of the Yukon
Territory, 1966-67, Welfare Department Report.

TABLE 3

COST OF CHILD WELFARE SERVICES, YUKON TERRITORY, 1960-61 TO 1966-67^{1/}

Year	Expenditure for Child Welfare Services (dollars)	Number of Children in Care (number)	Average Cost per Child (dollars)	Total Days of Care (number)	Average Cost per Day (dollars)
1960-61	65,208	162	402	n.a.	n.a.
1961-62	62,584	166	377	n.a.	n.a.
1962-63	88,620	268	331	33,251	2.67
1963-64	91,563	271	338	37,884	2.42
1964-65	103,142	302	342	42,889	2.41
1965-66	105,743	300	352	45,113	2.34
1966-67	133,582	307	435	51,263	2.61

1
2
3
4

housing designed to attract a stable, rather than an itinerant, work force should tend to reduce the incidence of social problems. Furthermore, a major part of the welfare cost in recent years has been to smooth the path of the large Indian population during a period of transition to a different way of life. This is not likely to be an increasing problem inasmuch as the majority of Indians in the Territory are already well advanced in the transition. It may be expected that the progress of education, the achievement of a more favourable social climate and the improved employment prospects resulting from greater industrial activity will bring about an actual as well as a relative decline in the requirements for such adjustments.

Summary

1. Yukon residents participate in all federal welfare and social security schemes including Canada Pension Plan, Old Age Security, Family and Youth Allowances and such.
2. Territorial assistance payments are of two types: categorical assistance to designated categories of persons and general assistance to the needy. The

former is available to all residents who qualify but the latter is restricted to non-Indians. Both types of assistance are partly recovered from the federal government which is also wholly responsible for general assistance to needy Indians.

3. The Territorial welfare program also includes child welfare services, family counselling, alcoholism and probation services and care for aged persons. Child welfare services account for the largest share of the total welfare budget.
4. Territorial welfare expenditure, including capital expenditure, has increased from \$241,630 in 1960-61 to \$453,810 in 1966-67.
5. Per capita welfare expenditure in the Yukon was slightly lower than in the rest of Canada in 1963-64, the last year for which such comparisons are possible. Subsequently, Yukon per capita expenditure increased from \$24 to \$32 per capita.
6. Future welfare needs will depend in part on the rate of economic development and population growth in the Territory but will mainly reflect the success of counselling and rehabilitative services, particularly as they concern the Indian population.

HOUSING IN THE YUKON TERRITORY

by

Joan Gherson

D. Wm. Carr & Associates Ltd.

Ottawa
September, 1968

C O N T E N T S

Housing

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HOUSING

Introduction

There is recurring evidence in these reports that the Yukon has relied, and must for a time continue to rely, on labour recruited outside the Territory. Government service, education and the technical aspects of mineral and other industrial development, at the very least, require skills which must be brought into the Territory. While financial gain may be the principal inducement to outside labour, the availability of satisfactory accommodation is also an important factor. It is particularly important if the Yukon seeks, as it must, to reduce its dependence on seasonal migration and build a fairly permanent work force.

Background

The 1961 Census of Housing which was taken in conjunction with the decennial Census of Population, showed that the standard of housing amenities in the Yukon was inferior to that of nearly every other region in Canada. This was true even in Whitehorse, where

accommodation was, on average, better than in the rest of the Territory.

Houses were generally smaller in Whitehorse than in the rest of Canada, averaging only 4.2 rooms per dwelling compared with 5.2 for urban areas in Canada as a whole. Although there were no one-room houses in Whitehorse, 25 per cent of dwellings had three rooms or less, compared with only 14 per cent for urban areas elsewhere. As a result, the number of persons per room, though not the highest in Canada, was considerably higher than the average for urban areas (Table 1).

The lack of housing maintenance in Whitehorse was particularly striking. Although all the houses in the Whitehorse sample were built since 1921, only half were in good repair and 21 per cent were in need of major repair. In other urban areas of Canada 78 per cent of houses were in good repair and only four per cent in need of major repair (Table 2). A high proportion of Whitehorse houses also lacked the water and sanitation facilities which were available in communities in other parts of Canada. About 20 per cent were without running water or toilet facilities and 24 per cent were without a bath or shower (Table 3). The Dominion Bureau of Statistics census data shows that no other city or town with over 5,000 population in Canada had so great a deficiency of these amenities.

TABLE 1

AVERAGE NUMBER OF ROOMS PER DWELLING AND PERSONS

PER ROOM, SELECTED AREAS, 1961^{1/}

Area	Average number of rooms per dwelling	Average number of bedrooms per dwelling	Average number of persons per room
		(number)	
Whitehorse	4.2	2.0	.90
Canada, urban	5.2	2.5	.73
Yukon and North- west Territories	3.4	1.5	1.23
Canada, urban and rural	5.3	2.7	.74

^{1/} Census of Canada, 1961, Cat. No. 93-524, Dominion Bureau of Statistics, Ottawa. Based on a 20 per cent sample of dwellings from which hotels, boarding houses, institutions, camps and other such collective-type dwellings are excluded.

TABLE 2

PERCENTAGE OF DWELLINGS BY CONDITION

SELECTED AREAS, 1961^{1/}

Area	<u>Condition of Dwelling</u>			Total
	In good condition	In need of minor repair	In need of major repair	
	(per cent)			
Whitehorse	49.8	28.9	21.3	100.0
Canada, urban	78.4	17.5	4.1	100.0
Yukon and North-west Territories	48.4	31.7	19.9	100.0
Canada, urban and rural	74.1	20.3	5.6	100.0

^{1/} Derived from Census of Canada, 1961, Cat. No. 93-523, Dominion Bureau of Statistics, Ottawa.

TABLE 3

PERCENTAGE OF DWELLINGS WITH RUNNING WATER, BATH
AND TOILET FACILITIES, SELECTED AREAS, 1961^{1/}

Area	<u>With Running Water</u>			With Bath or Shower	With Inside Flush Toilet
	Municipal Mains	Private Source	Total		
(per cent)					
Whitehorse	72.9	7.9	80.8	75.8	79.2
Canada, urban	93.7	4.6	98.3	93.1	97.4
Yukon and North- west Territories	37.3	10.0	47.3	44.0	43.9
Canada, urban and rural	71.7	17.4	89.1	80.3	85.2

^{1/} Census of Canada, 1961, Cat. No. 93-523, Dominion Bureau
of Statistics, Ottawa.

While comparable figures are not available for the Yukon as a whole, data for the combined Yukon and Northwest Territories would indicate that in all these respects the standard of housing in other communities in the Yukon was considerably worse than in Whitehorse. In Dawson, for example, a committee of the Chamber of Commerce found 25 houses (15 per cent of inhabited houses) unfit for occupancy.

The deplorable state of Yukon housing in 1961 can be attributed to the high cost of construction, difficulty in securing satisfactory financing, the transient nature of the population, the absence of adequate sewer and water facilities and the high proportion of low-income Indian families in sub-standard housing.

Recent Developments

Since 1961 a number of government-sponsored schemes have removed, to a limited extent, some of the more serious obstacles to better housing conditions in the Yukon. These schemes have provided some additional lending capital, extended sewer and water facilities, accelerated the building and repairing of houses for Indians and contributed to the erection of townsites at new mines.

From November, 1961, the Territorial government has been enabled to provide second mortgages of up to two thousand dollars to supplement the Central Mortgage and Housing Corporation (CMHC) lending program under the National Housing Act. In the period from 1961 to 1967, first mortgage loans were approved for 200 units totalling \$2,431,000; 49 of these received second mortgage loans to a total of \$84,359 (Table 4). It would seem likely, from this experience, that the scheme has succeeded in encouraging more houses to be built to NHA standards.

Recognizing the need for assistance to residents in unorganized communities who cannot afford the NHA standard, the federal government in 1961 instituted a grant of \$1,000 per dwelling toward such housing. In April, 1963, a full low cost housing loan program came into being, administered by the Territorial government from funds made available by the federal government. Under this scheme, first mortgages were made available for low cost housing, and an interest-free second mortgage of \$1,000 (on which repayment at \$100 per year is waived if the owner stays in possession) was provided for dwellings not exceeding a cost of \$10,000. Since inception, 36 first mortgage and seven second mortgage loans have been made to a total value of \$219,800 (Table 5).

TABLE 4

LOANS APPROVED FOR NEW HOUSING, YUKON TERRITORY, 1960-67^{1/}

Year	First Mortgages						Second Mortgages			
	Approved Lenders			CMHC			Total NHA			
	Loans	Units	Value	Loans	Units	Value	Loans	Units	Value	Loans
	(number)	(number)	(thousand dollars)	(number)	(number)	(thousand dollars)	(number)	(number)	(thousand dollars)	(number)
1960	-	-	-	32	32	377	32	32	377	-
1961	-	-	-	23	23	319	23	23	319	-
1962	-	-	-	26	28	390	26	28	390	14
1963	-	-	-	23	33	408	23	33	408	10
1964	-	-	-	10	10	150	10	10	150	6
1965	-	-	-	6	6	102	6	6	102	1
1966	-	-	-	25	54	702	25	54	702	6
1967	2	2	37	30	44	642	32	46	679	12

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^{1/} Central Mortgage and Housing Corporation, Whitehorse, Yukon Territory.

TABLE 5

NUMBER AND AMOUNT OF LOW COST HOUSING MORTGAGES GRANTED
GOVERNMENT OF THE YUKON TERRITORY, 1963-64 TO 1966-67^{1/}

Year	<u>Number of Mortgages</u>		<u>Amount of Mortgages</u>	
	First Mortgages	Second Mortgages	First Mortgages	Second Mortgages
	(number)		(dollars)	
1963-64	16	0	84,300	0
1964-65	8	2	43,800	2,000
1965-66	2	0	11,700	0
1966-67	10	5	73,000	5,000
Total	36	7	212,800	7,000

^{1/} Yukon Territorial Council, Sessional Papers 1967,
Sessional Paper 44, 1967 (1st) session.

The Indian Affairs Branch of the Department of Indian Affairs and Northern Development maintains a program to provide better houses for Indians. Under this program, assistance is given towards construction or repair of dwellings and provision of sewer, water and electricity. The average cost of the houses constructed (numbering as many as 25 in some years) was only \$2,767 in the period 1964 to 1966, indicating a fairly low standard of housing. Under an expanded program announced for 1966-70 provision was made for doubling the number of houses to be assisted in Canada and for raising the standard of houses constructed.

The Territorial government also has begun a public housing program to assist non-Indian families in need of accommodation, by building up to twenty houses for rent in a five-year period from 1967.^{1/}

Following the recommendations of the 1957 Inter-departmental Committee on Federal-Territorial Financial Relations the Territorial government assumed responsibility for the provision of water and sewage disposal services to communities in the Yukon. Under the extended program envisaged in the report of the 1967 Committee,

^{1/} Yukon Territorial Council, Sessional Papers, Sessional Paper 127-1967 (1st) Session.

capital expenditures totalling \$918,000 will provide new facilities in seven communities.

The Territorial government, assisted by federal grants, has also undertaken a squatters' removal program which will remove some of the worst housing conditions described above.

In addition to these forms of government assistance to private housing, the total stock of houses has been augmented by the erection of new townsites at developing mines. The federal and Territorial governments continued to build some accommodation for their employees, but such building is now limited relative to the total housing construction.

A survey of assessments shows that almost all new building and renovation assessed by the Territory since 1960 has been in the Whitehorse area. In the city of Whitehorse 174 new dwelling units were constructed between 1961 and 1967, representing 13 per cent of the stock of houses in 1961. Similar figures are not available for the residential sections just outside Whitehorse, but assessments indicate an increase of more than 100 units.

Future Requirements

Estimates of the increase in population likely to follow from present and future mining developments would indicate a large increase in demand for housing accommodation, both at minesites and service centres. While a large part of the demand will be met by the building of new townsites near the mines, that portion associated with the expansion in the service sector, mainly in Whitehorse, will create special problems. In the past, conventional institutional loans for housing in the Yukon would seem to have been in very short supply. In the recent past, a very high proportion of new housing has been financed either under the Territorial Low Cost Housing program or under the National Housing Act; in the latter case all except two loans were direct CMHC loans. In the rest of Canada, by comparison, NHA loans financed less than half the housing starts between 1961 and 1965, and of these more were financed by approved lenders than by the CMHC.^{1/} Because of the conditions attached until recently to CMHC direct loans, the heavy reliance on this form of financing has likely restricted the number of homes built for rent in the Yukon.

^{1/} Canada Year Book, 1967, p. 724.

Summary

1. Housing of a standard comparable to that available elsewhere in Canada is essential if the Yukon is to attract a large and reasonably permanent labour force.
2. The Census of Housing in 1961 showed that the standard of housing in the Yukon was well below that obtainable in the rest of Canada. Houses were smaller, in poorer repair and a larger proportion lacked water and sanitation facilities.
3. Since 1961 a number of government-sponsored programs have helped to improve the standard of Yukon housing. These programs included second mortgages, a low cost housing program, more homes for Indians and assumption of responsibility for water and sanitation services as well as assistance in building townsites for new mining developments.
4. For the future, it can be expected that considerable new housing will be required, particularly in Whitehorse.

JUSTICE AND CORRECTIONS IN THE
YUKON TERRITORY

by

Joan Gherson

D. Wm. Carr & Associates Ltd.

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JUSTICE AND CORRECTIONS

Background and Present Services

Prior to 1962 the costs of police services and the administration of justice, including maintenance of prisoners, were borne entirely by the federal government. For the period 1962-67 the Territory was given responsibility for a proportion of R.C.M. Police provincial-type services as well as for the costs of administering justice. By the 1967 financial agreement between the federal government and the Territory, the Territorial government was again relieved of these costs but continued to be responsible for part of the new correctional program.

Until 1967 there was no Territorial jail in the Yukon. Prisoners serving short sentences were held in the R.C.M.P. guardroom in Whitehorse and those serving longer sentences were sent to institutions outside the Territory. In 1967 the federal government completed a medium security institution and a mobile minimum security camp for which the Territory will assume 50 per cent of the operating costs.

Current Problems

The Yukon is faced with a rate of indictable offences higher than in the rest of Canada (Tables 1 and 2). Even in the most favourable year, 1964, convictions for indictable offences per thousand adults were more than double the national average and in some years were as much as four to five times the national rate. While the rate of summary conviction offences has been lower than the national average, approximately 60 per cent of these offences in the rest of Canada were for parking offences^{1/} and parking has been mostly free until 1968 in the Yukon. If parking offences are not included, the Yukon would show a higher rate in summary conviction offences as well.

There is some indication in Table 1 of a marked fall in the crime rate since 1962, but the period of the decline has not been sufficiently long to be significant. In fact, data on prisoners handled by the R.C.M.P. (Table 3) indicate a rising trend from 1964.

Such a high rate of crime is costly to the Territory, both in terms of actual expenditure for correctional services, for police and judicial services

^{1/} Canada Year Book, 1967, Queens Printer, Ottawa,
p. 424.

TABLE 1

CONVICTIONS OF ADULTS FOR INDICTABLE OFFENCES, SUMMARY

CONVICTION OFFENCES AND JUVENILE DELINQUENTS

YUKON TERRITORY, 1960-65^{1/}

Year	Indictable Offences	Summary Conviction Offences	Juvenile Delinquents	Total
(number)				
1960	130	1,598	n.a.	1,728
1961	149	1,781	2	1,932
1962	136	2,641	50	2,827
1963	149	2,575	-	2,724
1964	69	655	-	724
1965	85	1,113	-	1,198

^{1/} Statistics of Criminal and Other Offences, Cat. No. 85-201, and Juvenile Delinquents, Cat. No. 85-202, Dominion Bureau of Statistics, Ottawa.

TABLE 2

PERSONS CONVICTED PER THOUSAND POPULATION 16 YEARS
OF AGE AND OVER, YUKON AND CANADA, 1960-65^{1/}

Year	<u>Indictable Offences</u>		<u>Summary Conviction Offences</u>	
	Yukon	Canada	Yukon	Canada
	(number per thousand)			
1960	14	3	174	268
1961	16	3	193	243
1962	15	3	290	263
1963	16	3	286	146
1964	8	3	73	269
1965	10	n.a.	126	n.a.

^{1/} Statistics of Criminal and Other Offences, Cat. No. 85-201, and Canada Year Books, Dominion Bureau of Statistics, Ottawa.

TABLE 3

PRISONERS HANDLED BY R.C.M.P. YUKON SUB-DIVISION

1961-66^{1/}

Year	Prisoners Handled
	(number)
1961	1,641
1962	2,189
1963	2,065
1964	1,799
1965	1,887
1966	2,398

^{1/} Government Activities in the North, Northern Co-ordination and Research Centre, Department of Indian Affairs and Northern Development.

(which, though now borne by the federal government may be expected to revert to the Territory) and in terms of the social cost of crimes committed and the numbers in jail. The costs of policing are already high because of the great distances that must be covered in the police activities even though the population is relatively small. To indicate the relative costs, the number of police per thousand of population is 3.7 for the Yukon^{1/} compared with 1.9 for the whole of Canada. In 1961 the cost of policing the Yukon (excluding capital cost) was calculated at \$491,791, or more than 65 per cent of the operating costs for education in that year.

The crime rate may be higher because the rehabilitation services are inadequate. For example, the Territory has no adequate facilities for the custody or rehabilitation of juvenile offenders. The correctional institute has no staff whose primary function is rehabilitative.^{1/} Yet it is from these services, as well as from the counselling, alcoholism and other services provided by the welfare department that reduction in the crime rate should be achieved.

^{1/} Yukon Territorial Council, Sessional Papers, 1967,
Sessional Paper 34.

Future Requirements

It is in the field of rehabilitative services both for adults and juveniles that the Yukon correctional program should advance. Studies have shown that the high rate of crime is due to lack of education, loss of social purpose and excessive drinking.^{1/} Institutional programs emphasizing vocational training, group activities and community involvement in rehabilitation might therefore be significant factors in reducing the crime rate, but in the long term it is the educational and social climate which will determine whether that rate can be reduced.

^{1/} Neville, F.J., "Yukon and Northwest Territories," The Canadian Journal of Corrections, Vol. 7, No. 3, July, 1965, pp. 355-61.

THE POTENTIAL OF THE YUKON
TOURIST INDUSTRY

by

D. W. Carr

and

A. W. Burges

D. Wm. Carr & Associates Ltd.

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THE POTENTIAL OF THE YUKON TOURIST INDUSTRY

Introduction

The tourist industry may offer a significant contribution to the Yukon economy because of its special attributes. The tourist industry, though seasonal, tends to be a balancing element in an economy dominated by the volatile and uneven growth of the mining industry. Tourism has been making a steadily increasing contribution to the growth of the Yukon economy. At this stage in the progress of civilization in North America, the Yukon Territory may offer a haven of natural wilderness recreation that is particularly attractive to the increasing number of families who have the leisure and income to enjoy it. These three contributions of tourism to the Yukon economy - its stabilizing influence, its growing economic value, and its natural wilderness atmosphere - suggest that it can have an essential value in the future of the Yukon Territory and that this value will contribute substantially to the economic potential of the Territory.

Background and Present Development

The tourist industry began to contribute substantially to the Yukon economy only after about 1955. In that year, it was ranked as low as sixth among Yukon's industries - after mining, fur trapping, agriculture, forestry and fishing.^{1/} In 1967, with an estimated value to the economy of almost \$7 million, the tourist industry ranked next to mining among these resource based industries. Yet the value of tourism to the Yukon had risen to this 1967 level from an estimated \$2,046,000 in 1962-63 (Table 1). The number of tourists visiting the Yukon more than doubled in this six-year period 1962-63 to 1967-68, while tourists enquiries almost tripled. This was a remarkable growth considering the deficiencies in accommodation and other facilities in many areas. Substantial improvements in these have been made in recent years in Whitehorse and a few other places but many of the 70-odd hotels, motels and lodges open for business in 1968 still retained too many frontier features to be most attractive for tourists. It is remarkable, but understandable, that

^{1/} See The Yukon Territory, a Brief presented to the Royal Commission on Canada's Economic Prospects by F.H. Collins, Commissioner of the Yukon Territory, at Edmonton, November 22, 1955, p. 9 and 10. In its brief on the Yukon economy submitted to the same Royal Commission at that time in Edmonton by the Whitehorse Board of Trade, the tourist industry was not mentioned as having potential economic prospects.

TABLE 1

TOURIST ENQUIRIES, NUMBER OF VISITORS AND ESTIMATED VALUE
OF TOURISM, YUKON TERRITORY, 1962-63 TO 1967-68^{1/}

Fiscal Year	Number of Enquiries Processed	Number of Visitors	Value of Tourism
	(number)		(thousand dollars)
1962-63	11,976	40,016 ^{2/}	2,046 ^{2/}
1963-64	18,562	51,657 ^{2/}	2,642 ^{2/}
1964-65	31,165	49,299 ^{2/}	2,521 ^{2/}
1965-66	33,056	62,281 ^{2/}	3,337 ^{3/}
1966-67	31,099	108,400 ^{3/}	7,048 ^{3/}
1967-68	31,099	97,872 ^{3/}	6,696 ^{3/}

^{1/} Yukon Territorial Council, 2nd Session 1967 Sessional Papers, Sessional Paper No. 13, 1967 (2nd); Sessional Paper No. 28, 1967 (2nd).

^{2/} June, July, August.

^{3/} May to September inclusive.

tourists prefer to enjoy the natural peace and majesty of the Yukon outdoors while sleeping and eating under the most modern man-made conditions.

Tourists use mostly camping facilities rather than hotels and motels in the Yukon (Table 2). This resulted in a fairly low daily expenditure for each tourist party, an estimated \$32.63 in the 1962 tourist survey and \$28.00 in the 1966 survey. It may be expected that this use of camping facilities is partly related to the inadequacies of accommodation and meals in the rural areas.

The central improvement in the Yukon that had stimulated tourism in recent years was the road expansion program over the past decade. This progress in road improvement had enabled visitors to reach into the previously inaccessible and isolated places where the forests, mountains and wildlife provided so much natural beauty in secluded wilderness surroundings. The dust and roughness of the gravel that surfaced these highways was an increasing handicap to tourist development, however.

Considerations in the Development of Tourism

The potential of the tourist industry in the Yukon economy depends upon the availability of attractive tourist resources, the numbers of people who can be induced

TABLE 2

CHARACTERISTICS OF TOURISTS IN THE YUKON

1962 AND 1966^{1/}

	1962 Survey	1966 Survey
Number in Party	3.07 persons	3.1 persons
Number of days spent in Yukon	4.7 days	7.2 days
Accommodation - Camping	63.4 per cent	75.4 per cent
- Hotels & Motels	34.6 per cent	33 per cent
Average daily expenditures per party		
- Transportation	\$10.95	\$14.00
- Accommodation	14.27	4.00
- Food	6.15	7.00
- Miscellaneous	1.26	3.00
Total	\$32.63	\$28.00

^{1/} A survey of the tourist industry of the Yukon Territory, 1962 and 1966. Prepared by the Department of Travel and Publicity, Whitehorse.

to invest their leisure and income in the enjoyment of these attractions and the effectiveness with which tourist services are provided for these people. Broadly, these are the elements in the supply of, and demand for, tourist services in the Yukon. They will be examined next, in terms of tourist resources, demand for services, and a summary of these to show the potential of the tourist industry for economic growth.

Resources

The supply of tourist resources in much of North America is no longer adequate to meet the demand. The rapid rise in the leisure and incomes of the people of North America especially in the late 1950's and the 1960's has increased greatly the volume of use of traditional recreation areas. This crowding, in turn, has reduced the quality of the recreational experience for many people, and there has been a constant and increasing search for areas where nature continues to dominate. Moreover, an increasing number of people have become interested in reaching out again, or for the first time, to places having a frontier environment (except in their dining rooms and beds) and more of these people have the leisure and income to spend on it. The inability of the

supply of tourist resources elsewhere to meet this demand adequately has made the Yukon's resources increasingly attractive in spite of their distance.

In tourist resources, the Yukon has a remarkably attractive combination, not less remarkable because the whole combination seems to add to something greater than the sum of the parts. The altitude and dryness seem to add a stimulant to the Yukon atmosphere and people soon walk with a lilt of enthusiasm. The great rings of mountains that surround the central plateau seem everywhere to add a snow-capped majesty to the distant landscape. The rugged hills in the central plateau seem to suggest a haven only for the hardy. The miles of the blue-lined Yukon and its tributary rivers and brooks, the great calm lakes invariably reflecting the hills behind, the wide forested valleys, provide always a scene to ponder and enjoy. Even the wildlife seem less disturbed and so, gentler than the ordinary. Add to these the extensive streams and lakes where the fish are still enthusiastic; the mountains and the valleys where big game are ready at hand, the quiet places a few yards from the highways where it seems no man has been before; and those who enjoy outdoor recreation have a range of attractions that are seldom encountered and almost always remembered. This,

then, is what nature has given to the Yukon. Man needs only to help pass it on.

In addition to these resources of nature, the relics of the Klondike gold rush and Dawson City remain a major attraction to tourists, especially to those whose kin travelled the "Trail of '98", and to those who "nearly joined" those goldseekers, and the children of both these groups who have heard the stirring tales first hand.

The Demand for Services

Tourist demand for Yukon recreation resources have been increasing rapidly since 1962 (Table 1). It may be expected to continue to grow rapidly, given reasonable improvements in the available services. Reasonable improvements in services are examined in the next section. Here we are concerned with the characteristics of the tourists and the prospects that lie in their demand for tourist services.

About 81 per cent of the tourists visiting the Yukon come from the United States (with California, Washington, Alaska and Michigan the largest contributors). About 17 per cent comes from other parts of Canada and about two per cent from other countries.

Most of the tourists have been coming to the Yukon by automobile, more than 95 per cent, it is estimated,^{1/} with about three per cent by plane, and the balance by bus. In 1967 and 1968, with the increase in special tours, the numbers arriving by bus have been increasing relatively more rapidly.

In 1965, the annual average rate of growth in numbers of tourists coming into the Yukon was estimated at 11.9 per cent.^{2/} This growth rate was exceeded from 1965-66 to 1966-67 (Table 1) but the 1967 Centennial celebrations, especially Montreal's Expo 67, reduced the tourist travel to the Yukon that year as it did to the western and Atlantic provinces. The 1968 tourist flow is expected to regain the previous growth rate. If it does tourist numbers should reach 125,000 in 1968.

Most of the tourists come to the Yukon in July and August, about 60 per cent. But the period of tourist travel is being extended rapidly in the Yukon. Where a few years ago the tourist season was confined largely to June, July and August, it now extends from May through to October. As the quality of accommodation improves the season will extend further. Winter recreation may be

^{1/} Improvement Program for the Alaska Highway, Study prepared for the Department of Northern Affairs and National Resources, 1966, p. B-11.

^{2/} Ibid.

expected to develop in areas where climates are least severe - as people extend their demand for winter recreation in isolated surroundings.

Tourists are indicated to be spending more time in the Yukon. In the 1962 survey, tourist parties averaged only 4.7 days in the Yukon while the 1966 survey reported 7.2 days per party (Table 2). The proportion of tourists using camping facilities increased also, due no doubt to the increase in suitable campsite facilities. Yet expenditures per day for the longer stay in 1966 remained nearly as high as in 1962, resulting in an increase in total spending of nearly 25 per cent per party. The distribution of the 1966 expenditures were estimated to be 50 per cent for transportation, 14 per cent for accommodation, 25 per cent for food and 11 per cent for other things. It may be expected that the amount spent for accommodation and food has tended to increase since 1966 with the improvements in motel and restaurant service. Thus, if the estimated dollar value of tourism in 1966 was over \$7 million (Table 1), the value in 1968, with probably 125,000 tourists and some increase in spending, may be expected to reach \$10 million.

Tourist Services in the Yukon

The considerations relative to providing effective tourist services are numerous and often complex. At this stage in the development of tourism in the Yukon a great many improvements in these services appear to be needed. Some of these are not costly and can be carried out soon without difficulty; some are essential now to maintain the progress of the industry; and some will be warranted only by the potential expansion of the industry.

A first major service in this context relates to the care of the tourist resources. If the quality of the recreation experience is to be maintained the resources themselves should be suitably maintained and improved. Provision thus needs to be made to prevent and repair damage, including fires; to maintain the cleanliness of natural areas used for camping; and to lay out trails or other areas so nature can be seen, enjoyed and not injured. So far this has not been a big task in the Yukon and what was done has been remarkably well done.

Yet the preservation of this natural wilderness beauty cannot be accomplished without adopting some special measures. In the Yukon there has been a rather shallowly based conflict between some of those who still

favour the old philosophy of the mining fraternity in the North, "Get in, get it, and get out", and those other extremists who favour reservation for wilderness parks regardless of the economic value of other resources. The Yukon economy has reached a stage where such narrow self-interest on either side is no longer acceptable. The evidence would indicate that in the long run the benefits to the permanent economy will be greater if much of the best of the Yukon's spectacular scenery is soon reserved and developed as a natural wilderness recreation area. Fortunately, there are several areas with favourable resources for a wilderness reserve which have few mineral or other resource indications. Moreover, early action should be taken to prevent such lands being committed to less valuable uses. The contribution to the Yukon economy of the investment and income implicit in the development of natural wilderness reserves would be substantial. Because such wilderness is becoming increasingly scarce in the rest of North America, its economic value to the Yukon may be expected to grow and become quite large in future. Thoughtful people in the Yukon have been striving to develop a more stable and viable economy than the mining industry has been able to ensure. Their wisdom can only lead them to conclude that such an expansion of tourist recreation could inject a substantial measure of stability

to the economy in terms of the Yukon's long run potential. Because the tourist industry can make a major contribution to the stability and output of the Yukon economy and because wilderness reserves will make a major contribution to the tourist industry it is recommended that early action be taken to reserve suitable areas for national parks.

Highway services are a significant handicap to the tourist industry in the Yukon. The road building program has been advancing rapidly, designed primarily to serve the mining industry to be sure, but nevertheless serving the tourist industry very well. Moreover, it may be expected that the mining needs will continue to provide the initiative for most new road construction for some years to come. It can be expected that most of these new roads will also serve tourism's needs.

The key problem for tourism is the dust and roughness imposed on auto traffic by loosely gravelled surface of virtually all the Yukon roads. The dust may be the worst of the two. It sifts into the interior of the car, chokes the breathing passages, blinds the driver to oncoming traffic and discourages the most enthusiastic drivers. The road hazard of cars passing trucks in this dust has been noted as a major cause of fatal accidents on the Alaska highway in the Yukon. All the Yukon roads

have this handicap now and Yukon travel can soon be discredited if measures are not taken to reduce this hazard. The risks will be increased when the heavy ore truck traffic between Anvil and Whitehorse begins in September, 1969. Paving such roads may still be too costly at present but dust inhibitors, or binders, are becoming essential and may be a substantial economy.

There is good evidence that, with an intensive research study, an effective dust inhibitor could be applied which would not only lay the dust but would bind the loose gravel so it would not be thrown off the highway. It has been estimated that the cost per mile of replacing the gravel thrown off the Alaska Highway has been \$2,500 per year.^{1/} If part of this was devoted to a binder to inhibit the dust, indications are that the cost of maintenance and loss of gravel might be reduced enough to make a substantial overall saving in the maintenance operation. Our brief survey of this problem suggests that not enough qualified research was being done on it and that these economic advantages of a dust-control program were not being adequately taken into account. It

^{1/} The total cost of maintaining highways and roads in the Yukon and Northwest Territories, including administrative costs, was \$5,550 per mile in 1965 (of the total road mileage of 2,536, gravel roads comprised 2,441 miles, earth roads were 91 miles and paved were four miles). See Canada Year Book, 1967, p. 804-5. Maintenance of the Northwest Highway (Alaska) system was reported by Department of Public Works officials as approximately \$4,200 a mile for maintenance plus \$2,500 per mile for replacement of gravel in recent years.

is recommended that an effective technical research and cost-benefit study of methods of inhibiting dust be instituted as soon as possible. A crash program involving a \$2-3 million research study would possibly yield more than an offsetting monetary saving in maintenance expenditures as well as fewer accidents and a boost to the tourist industry. It is important that all these benefits as well as all the maintenance savings be fully taken into account in such an appraisal.

In the meantime, it is recommended that a temporary program of minimum dust control be instituted immediately (perhaps no more than a tank truck to sprinkle the dustiest sections with water) to reduce the serious disadvantages now being encountered by the tourist industry.

In addition it is recommended that a modest annual program be undertaken for progressive rebuilding to satisfactory standards of those parts of the northwest Highway that require it most, so that eventually, as traffic grows, consideration may be given to paving those sections where it is most warranted by net benefits.

Accommodation and related services have been a major handicap in the expansion of the Yukon tourist industry. There are 35 motels and lodges located in small centres and on the Yukon highways and 36 hotels and motels

in the four urban centres of Whitehorse, Watson Lake, Dawson and Mayo (Table 3). The quality of these accommodations varies from the modern new 56-unit Travelodge completed in Whitehorse in 1968 to some quite primitive facilities in outlying areas. In addition, 24 camping grounds are maintained by the Department of Forestry and five others by commercial operators. In recent years, there has almost always been a severe shortage of hotel accommodation during the peak of the tourist season. Moreover, the shortage of good restaurants is even more critical. Expansion of the tourist season is handicapped by many of the more outlying of these establishments closing in September.^{1/} These deficiencies in hotel accommodation and meals have hampered the burgeoning growth of the bus tours which were initiated with such promise a few years ago.

It is estimated that capital investment in highway tourist facilities was about \$2 million in 1967, and in urban hotels and motels was an additional \$3 million.

The quality of these facilities needed to be improved and their number and capacity extended. Adequate provision for licencing such premises should be instituted to ensure a satisfactory level of services. Standards should be established for both facilities and

^{1/} In the course of this Study, it was noted that meals were not always available in commercial establishments in mid-October in several communities including Dawson City and Mayo.

TABLE 3

TOURIST ACCOMMODATION, ESTABLISHMENTS AND EMPLOYMENT

YUKON TERRITORY, 1967^{1/}

Type of Establishments	Number of Establishments	Summer Labour Force	Winter Labour Force
Highway establishments reported in Yukon Travel & Publicity Branch Survey	27	171	72
Highway establishments not reported in Yukon Travel & Publicity Branch Survey	8	50 ^{2/}	31 ^{2/}
Urban establishments at Whitehorse, Watson Lake, Dawson City, and Mayo	36	396 ^{3/}	306 ^{3/}
Total	71	617	409
Estimated Employment for Tourist Services ^{4/}		410	270

^{1/} Data provided by W. J. M. Gibson, Director, Yukon Travel and Publicity Branch, Whitehorse.

^{2/} Summer labour force estimate based on average of 6.3 employees per highway establishment. Winter labour force based on average of 3.9 employees per highway establishment.

^{3/} Summer labour force estimate based on average of 11 employees per establishment. Winter labour force estimate based on average of 8.5 employees per establishment.

^{4/} Much of the accommodation in these urban facilities is regularly occupied by non-tourist visitors. Since about two-thirds of the total visitors are tourists, employment has been apportioned on this basis.

operating services so that unsatisfactory services can be minimized. To provide the additional facilities that appear warranted it is recommended that a well-planned development program be undertaken. This facilities development should be related to the recreation attractions available and should be planned in conjunction with the promotion program. For this initial expansion of facilities, an effective long-run plan to assist entrepreneurs in finding and developing suitable locations should be developed as soon as possible. To stimulate the expansion of facilities, it is recommended that specific objectives be established to undertake the long-run planning, to establish the standards and supervision of facilities, to facilitate the financing where necessary and otherwise to administer and promote the improvement of the tourist infrastructure. To provide financing where it is not otherwise available, it is recommended that a revolving fund of \$500,000 to \$1,000,000 be established to provide credit for the facilities investment. This special development program should be designed mainly to initiate and stimulate facility expansion where gaps continue to exist. It should be closely associated with, but not part of, the promotion program.

It is also recommended that additional Department of Forestry campsites be constructed at suitable places.

Particularly favourable reports have been received from tourists on the high quality of these campsite facilities and of the services provided there.

Part of the program for additional accommodation should take the form of an initial development that could be used at the same time for instituting some promotion of fall and winter tourism. The shortness of the tourist season has from the beginning been a major handicap to tourist expansion. It seems to be the central limitation holding back the improvement of accommodation facilities outside Whitehorse. Unless the season can be expanded to spread the overhead cost over a longer period, the cost of good tourist accommodation must be excessively high to make a reasonable profit. Since the poor accommodation is related to the present short season, it will be necessary to lengthen the season or provide other inducements if the improvement in the quality of facilities and services is to be warranted. Fortunately, the best way to lengthen the season is to provide year-round accommodation with attractive meals and other services (including perhaps basic cold weather clothing, if appropriate).

Promotion of tourism has made excellent progress in the few years since it was started on an organized basis. It is carried out by the Travel and Publicity Branch of the Territorial Government. Most of the financial resources

of the Branch have been directed toward advertising and publicity in the United States and Canada in recent years (Table 4). In 1967, about \$20,000 was invested in the

TABLE 4

TOURIST PROMOTION EXPENDITURES

YUKON TRAVEL AND PUBLICITY BRANCH, 1963-67^{1/}

Year	Advertise- ments	Literature	Bud Fisher Tours, etc.	Total
(dollars)				
1963	2,750	12,000	1,500	16,250
1964	3,500	5,500	1,500	10,500
1965	4,360	7,000	2,000	13,360
1966	3,500	7,000	2,000	12,500
1967	4,836	17,000	2,000	23,836

construction of tourist information facilities at the four main entering points - Watson Lake, Haines Junction, Beaver Creek and Dawson. The branch also works with local authorities to support the installation of directional and informational road signs to guide tourists and matching grants are made for the provision of the highway signs.

^{1/} Data provided by W. J. M. Gibson, Branch Director, Whitehorse.

Overall, promotion expenditures in the Yukon are small but effective. In relation to the expenditures by tourists, the Yukon promotion costs are low in comparison with the provinces generally.^{1/}

Much of the promotion has in the past been co-ordinated with that of Alaska because there is a mutual benefit in supporting tourism as applicable to the whole region. This co-ordination of publicity is desirable and should be continued, even expanded. At the same time, an increasing attention should be given to the unique attractions to be found in the Yukon environment and history. Just as the progress of the Yukon tourist industry can be indicated by extending the current emphasis on campsites for tourist accommodation to comprehend a new emphasis on the attractive features of the new hotel-motel facilities as these are expanded, so the present promotion of joint Alaska-Yukon attractions can be extended by emphasizing the intrinsic attractions of the Yukon. There should be no implication that the touring visitor cannot enjoy a full and well-rounded vacation in the Yukon alone.

^{1/} For example, promotion expenditures as a proportion of foreign tourist expenditures in 1965-66 was estimated at 0.133 per cent for the Yukon, 0.241 per cent for Ontario and 0.668 per cent for British Columbia. See Canadian Publications and Advertising Expenditure, 1965-66, Ontario Department of Tourism and Information, Toronto, December 7, 1967.

The rapid growth rate of 17 per cent a year from 1962-66 is unlikely to be maintained in future but an average annual rate of 10 to 12 per cent appears quite possible provided a few handicaps to growth can be removed.

The most immediate of these obstacles limiting growth are the dust and other road hazards; the deficiencies in availability and quality of accommodation, meal services and related services; and inadequate funds for promotion and development.

If these obstacles can be adequately removed, the Yukon tourist industry is projected to expand three- to fourfold by 1985. It will expand more rapidly if adequate provision is made for national park recreation. The number of tourists can be expected to increase from an estimated 100,000 in 1967 to 300,000 or 400,000 by 1985. As accommodations expand and other services improve it may be expected that daily tourist expenditures will also increase. Length of stay may be expected to increase also. Overall, where the average tourist party in 1966 was estimated to have spent almost \$30 per day in the Yukon, it may be expected that daily expenditures will rise to \$50 to \$60 per party per day with the extension of facilities and services by 1985. Thus, where the value of tourism was estimated at nearly \$7 million in the 1967-68

fiscal year, by 1985 it may be expected to rise to at least \$50 or \$60 million a year. If the season can be effectively extended it will rise more than that.

Summary of Recommendations

To make possible this growth of the tourist industry, certain measures are recommended.

It is recommended that the present high quality of the tourist resource environment be maintained, in part by maintaining the present high level of care of resources as the use of them by tourists expands, in part by providing adequately for wilderness reserves by strategic and economic selection of areas for national parks and in part by expanding the development of campsites, nature trails and such.

It is recommended that immediate steps be taken to eliminate the dust and roughness imposed by the loose-gravel surfaces of Yukon roads. Dust creates most offensive and hazardous problems for tourists. Paving may still be too costly as a remedy for the dust problem but the evidence indicates that other low-cost methods may take care of it satisfactorily. A threefold attack on the problem can be recommended. It is recommended that an effective study be undertaken as soon as possible based on

technical testing and research, as well as cost-benefit analysis, on methods of inhibiting dust and binding the gravel on the highways of the Yukon. It is recommended that \$2 million to \$3 million be devoted to such a study on a crash program basis to appraise the most effective method of inhibiting dust taking account of the savings in road maintenance, in gravel replacement, (see estimates above), in accidents, etc., as well as the increased revenues from tourist and other highway traffic. The objective would be to approve and apply the most favourable method as soon as possible.

A second step recommended is to provide a temporary program of dust control for the year or so required before the above special study can provide a more permanent solution. Perhaps it may be sufficient to institute a simple method of sprinkling the highways with water or oil from a tank truck where the dust problem is most severe. Something of this nature will be essential when the movement of ore from Anvil to Whitehorse begins in the fall of 1969 but in this case the user cost may be attributable mainly to the carrier.

A third step recommended is the inauguration of a modest annual program of progressive rebuilding (and relocation where desirable) of those parts of the Northwest

(Alaska) Highway System that are most in need of such rebuilding to bring these weakest links, including bridges, up to a satisfactory standard of roadbed that can eventually be paved with confidence where warranted by the growth of traffic.

To stimulate the expansion of these services it is recommended that specific objectives be undertaken now for the long-run development required. These objectives should include early provision for long term planning for tourist industry development, establishing standards and supervision for facilities and services, measures to provide or facilitate the financing, where necessary, of additional facilities, and otherwise administering and promoting the improvement of the structure of tourist services. It is recommended that a special revolving fund of \$500,000 to \$1 million be established to provide credit for such new facilities. It is also recommended, to avoid having the regulatory activities conflict with promotion, that the agency handling this facility development program be closely associated with, but not part of, the tourist promotion agency.

It is recommended that part of this facility expansion program be directed toward facilities suitable for attracting tourists during the whole year as an initial

step toward expanding the tourist season into the winter months. The opportunities for such winter recreation for Yukon residents as well as tourists from outside the Yukon have been increasing as population and incomes grow.

It is recommended that the Department of Forestry extend its excellent campsite development program.

It is recommended that the promotion of Yukon tourism and recreation be increased to a level more in harmony with the immediate opportunities and tasks before it. The promotional activities themselves should be increased but at this time it would be desirable also to have a thoughtful appraisal of the special tourist attractions available in the Yukon Territory - not the standard, canned huckster-type of appraisal but one that explores the unique and intrinsic features that can attract tourists to the Yukon environment in particular. Such a study should be fitted in with the long-run development plan for the Yukon tourist industry outlined above. It is recommended that, as conditions and information permit, the promotion of the intrinsic attractions of the Yukon Territory be given more emphasis.

It is recommended that the excellent co-ordination of Yukon promotion with that of Alaska be continued and expanded as warranted.

Potential Contribution to the Economy

It may be expected that the tourist industry will continue to expand at a relatively high rate. If the above recommendations are implemented, its growth rate will be higher. With warranted improvements, it is projected that by 1985 the number of tourists visiting the Yukon will have reached close to 400,000 a year. The output or value of the tourist industry by 1985 (based on its estimated value of \$7 million in 1967) will rise to \$50 to \$60 million. Additional private and public capital investment to meet the warranted expansion requirements of the tourist industry in the Yukon is projected at \$20 million for facilities including campsites. Employment in tourist accommodation and related services is projected to rise from an estimated 270 year-round workers to 1,500 year-round employees.

THE AGRICULTURAL POTENTIAL OF THE
YUKON TERRITORY

by

D. W. Carr

D. Wm. Carr & Associates Ltd.

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THE AGRICULTURAL POTENTIAL OF THE YUKON

Introduction

Farming in the Yukon will probably never be as significant again as it was in the period of the Klondike gold rush. Evidence still remains of the farms, long since abandoned, where potatoes and other garden produce were raised, milk and beef were produced and hay and other crops were tilled. The farms were small, but at the prices paid in the isolated, gold-rich Dawson City, even a small farm might yield an adequate net return. Farming is unlikely to become an industry of such significance again in the Yukon Territory.

Those early Klondike conditions did not survive and the farming declined with mining. By 1931, 41 farms still remained in the Yukon. Many of these have since been abandoned (Table 1). The exception was in the 1950's and early 1960's when farming was again encouraged and acreage was expanded. By 1966, another decline had occurred and only nine farms were reported in the Census of the Yukon (Table 1). Only two of these were commercial farms

TABLE 1

NUMBER, AREA AND USE OF FARM LAND, YUKON TERRITORY, SELECTED YEARS^{1/}

Item	Unit	1931	1941	1956	1961	1966
Number of farms	Number	41	26	16	15	9
Number of commercial farms ^{2/}	"	n.a.	n.a.	4	2	2
Total area of farms	Acres	5,197	2,781	3,997	8,072	3,680
Improved land	"	778	511	634	954	463
Unimproved land	"	4,419	2,270	3,363	7,118	3,217
Crops - Wheat	"	8	-	23	42	-
- Oats	"	63	27	52	77	20
- Barley	"	n.a.	n.a.	15 ^{3/}	4	-
- Hay	"	558	392	88	104	108
- Potatoes	"	69	47	17	12	4
- Vegetables	"	5	1	9	5	2
Livestock - Horses	Number	62	90	172	230	17
- Cattle	"	72	52	104	206	98
- Milk cows	"	n.a.	n.a.	7	16	9
- Hens & chickens	"	224	138	296	358	635

^{1/} Based on unpublished data from the Census of Agriculture provided by the Dominion Bureau of Statistics, Ottawa. No data were available from the 1951 Census.

^{2/} Commercial farms include all farms reporting \$1,200 or more (\$2,500 or more in 1966) sales of agricultural products.

^{3/} Includes other fodder crops (seven acres).

(those reporting sales of farm products of \$2,500 or more in 1966). These nine farms had a total investment of only \$121,300 in 1966 and total sales of only \$22,480 (Table 2), in both instances somewhat below the level of one ordinary full scale farm in the major farming areas of Canada.

TABLE 2

VALUE OF FARM CAPITAL AND SALES OF FARM PRODUCTS

YUKON TERRITORY, 1961 AND 1966^{1/}

	1961	1966
	(dollars)	
Land and buildings	198,600	47,300
Machinery	113,900	56,100
Livestock and poultry	59,900	17,900
Total capital	372,400	121,300
Total sales of farm products	15,610	22,480

In recent decades, the interest and support for agricultural settlement in the Yukon has risen periodically. Yet it is obvious to most people that the physical environment imposes substantial handicaps on Yukon agriculture.

^{1/} Based on unpublished data from the Census of Agriculture, provided by the Dominion Bureau of Statistics, Ottawa.

Nevertheless, farming in a frontier region like the Yukon appeals strongly to many people. To the frontier leaders it is an effective way of populating and developing the rural areas and they would thus encourage it. To the frustrated city dweller it provides an escape from modern society. To the jaded farmer elsewhere it may appear as a new opportunity to pioneer. Too frequently the lack of net profitability of Yukon farming is overlooked in these enthusiasms.

Physical Environment

The physical resources of the Yukon limit the range of agriculture in the region. The characteristics of the land and of the air above the land are the central elements in this physical resource environment. Among these physical characteristics that are most important to the farming potential are the various qualities of the land and the amount of each type of land. These various qualities and areas of land can be appraised in terms of the geology, topography, soils, drainage, stoniness, climate, vegetation and location. This physical appraisal of the quality of the land should then be interpreted in terms of the comparative use of such land in conjunction with modern technology, especially in large-scale mechanized

farming operations, with which Yukon farming must compete. This combined appraisal can indicate the resource potential for profitable and continuing farming in a region.

The physical characteristics most significant for the agricultural potential in the Yukon are topography, soils, climate and location including physical isolation and distance.

Topography describes the configuration of the land surface. In the Yukon, the topography in those areas where soil is suitable, is most commonly uneven, with slopes too steep for large-scale machines (slopes of ten feet in 100 feet tend to be excessive with modern technology). Even for grazing land the steepness of the slope is frequently excessive if pasture improvements are to be practiced.

The soil characteristics of the land in the Yukon or elsewhere can be considered as determined mainly by nature. The basic productivity of the soil must rest mainly on its natural properties. Unless the natural productivity of the soil is relatively high, it will not be profitable for tilled crops, except in certain special cases of intensive farming such as greenhouse operations.

Yet even the best of soils must be adequately supported by the other land characteristics (climate, topography, location, etc.) if it is to be the basis for

effective farming. This dependence of farming on numerous other favourable characteristics in addition to soil, has not always been recognized in schemes for settlement of the land and the profitability of the settlement has suffered accordingly.

In the Yukon, soils are available in limited quantity that might be suitable for farming provided other conditions were satisfactory. These areas of soils are found mostly in the river valleys. In 1959, the "potential arable lands" in the Yukon were estimated as follows:^{1/}

Takhini-Dezadeash Valleys	220,000 acres
Yukon River and tributaries valleys	60,000 "
Tagish and Little Atlin Valleys	8,000 "
Dawson area	6,000 "
Total	<hr/> 294,000 acres

This designation of "potential arable lands" may be misleading to the layman because it seems to suggest that the land is waiting with its potential ready to be profitably exploited now. In fact, conditions now are likely to be quite unfavourable for profitable use of these lands, and this is discussed below. Many of these soil areas are too infertile, too rough in topography, too stony, too deeply frozen, too isolated, or otherwise

^{1/} Nowasad, F.S., Agriculture in the North, a paper presented to the B.C. Natural Resources Conference, November, 1959, p. 3.

unsuitable for farming. Most of these soils are podzolized and quite low in plant nutrients.^{1/} They require the addition of fertilizers and usually irrigation. Not enough is known of the soils of the Yukon, and if more soil studies were made, on a comparative basis with the major farming areas in Canada, they could be expected to show more clearly the disadvantages of Yukon farming, unless present technology and other conditions change. The high cost of maintaining the fertility of the soil (with lime, fertilizers, tillage, etc.) in the Yukon in competition with large-scale farming enterprises in areas like central and southern Alberta is alone enough to disqualify competitive Yukon farming for the most part.

Climate is a significant determinant of the potential productivity of farming in any region. In the Yukon, it is particularly significant because of its northerly latitude combined with a relatively high altitude (Table 3). Climate is important because much of farming is based on plant growth and climate determines in large measure the extent to which any plant will grow or thrive, given suitable soil.^{2/} A comparison of the climate in

^{1/} Ibid. p. 4 and see also J. H. Day, Reconnaissance Soil Survey of the Takhini and Dezadeash Valleys in the Yukon Territory, Canada Department of Agriculture, 1962.

^{2/} Climate also affects the degree to which farm animals will grow or thrive outdoors. In a cold climate, the food intake may be inadequate to maintain body heat and the animal declines or suffers.

significant places in the Yukon with those in the major farming areas of Canada (especially those in Alberta and Saskatchewan and in London, Ont.) indicates the handicaps suffered by the Yukon (Table 3).

The Yukon areas, except for Watson Lake, enjoy less precipitation than the wheatlands of the Saskatchewan prairies (Table 3). The frost-free period represents the growing period for most farm crops, except perhaps hay, and it tends to be too short for grain crops throughout the Yukon, too short for garden crops except in Watson Lake and perhaps in Dawson. The so-called growing season (days when mean temperature is above 42°F.) is longer than the frost-free period but for farm crops the frost-free period determines whether they will mature or be destroyed. The abundance of growth in summer depends greatly on the temperature during the growing months.^{1/} In the Yukon, these growing months are June, July and August. A comparison of the growing temperatures in that period (based on the day-degrees below 65°F.) shows the Yukon significantly cooler than other farming areas in Canada, with the abundance of plant growth correspondingly less. The winter coldness of the Yukon is particularly notable in the comparison of the day-degrees

^{1/} It has been found that light (daylight or sunshine) has little influence on photosynthesis in plants compared with the effect of heat.

TABLE 3

LONG-TERM CLIMATIC DATA, SELECTED STATIONS^{1/}

	Height above mean sea level	Precipitation average annual	Average frost-free period	Days with mean temperature above 42°F.	Average July temperature	June- August Heating Factor (below 65°F.)	October- April Heating Factor (below 65°F.)	Average date of last spring frost	Wind Chill January
	(feet)	(inches)	(days)	(degrees F.)	(degrees F.)	(day-degrees)	(date)	(degrees F.)	
Dawson, Y.T.	1,062 ^{5/}	12.67 ^{5/}	90 ^{2/}	136	59.8 ^{5/}	748	May 28 ^{2/}	n.a.	
Watson Lake, Y.T.	2,248 ^{5/}	16.98 ^{5/}	101 ^{2/}	144	59.1 ^{5/}	812	May 28 ^{2/}	n.a.	
Whitehorse, Y.T.	2,289	10.67	78	143	56.2	901	June 10	-8	
Haines Jctn., Y.T.	2,030 ^{5/}	10.94 ^{5/}	53 ^{2/}	122	53.8 ^{5/}	1,219	June 21 ^{2/}	n.a.	
Yellowknife, N.W.T.	682	8.45	113	125	60.9	797	May 31	+1	
Prince George, B.C.	2,218	22.16	68	166	59.6	766	June 17	+1	
Edmonton, Alta.	2,219	17.63	100	n.a.	62.9	476	May 29	-7	
Calgary, Alta.	3,540	17.47	91	155	62.4	550	June 3	+4	
Saskatoon, Sask.	1,690	14.40	111	n.a.	66.4	350	May 24	-18	
Churchill, Man.	115	15.01	63	95	54.7	1,410	June 28	-44	
Winnipeg, Man.	786	19.72	110	176	68.4	259	May 27	-20	
London, Ont.	912	38.24	137	205	69.6	150	May 16	+9	
Knob Lake, Que.	1,681	27.55	70	103	55.1	1,223	June 21	-4	

^{1/} Data from Dominion Bureau of Statistics, Canada Year Book, 1960, and W. G. Kendrew and D. Kerr, The Climate of British Columbia and the Yukon Territory, Ottawa, Queen's Printer, 1955, unless otherwise noted.

^{2/} Boughtner, C.C., The Distribution of Growing Degree-Days in Canada, Canadian Meteorological Memoir No. 17, Department of Transport, Toronto, 1964.

^{3/} Department of Transport, Climatology Division, CDS No. 5-64, 1964, Toronto.

^{4/} Calculated on average January temperature and windspeed. See also Department of Transport, Ottawa, AMS Bulletin, Volume 29, December 1948, for formula.

^{5/} Department of Transport, Climatology Division, CDS No. 1-62, 1962, Toronto.

below 65°F. for the October to April period. This winter coldness virtually eliminates the possibility of fruit trees surviving the winter. In terms of wind-chill, the Yukon, based on Whitehorse, does not fare as badly as some prairie cities like Saskatoon and Winnipeg (Table 3).^{1/}

When all these climatic disadvantages are added together it is evident that few, if any, farm crops can be grown as productively in the Yukon as in the major farming areas of Canada, other things being equal. Put another way, it means that the costs of producing any crops in the Yukon are likely to be relatively high or to ensure that a crop will be harvested may require costly protective measures. Thus in most cases, the Yukon climate makes farming low in productivity and relatively high in cost. These would probably make most farming enterprises unprofitable under present competitive conditions. On the other hand, if crops such as garden vegetables are grown for personal, rather than commercial purposes, they may be quite successful. At the same time, under particular conditions, some crops may be produced with profit. The particular conditions suitable for this, involve the cost of ensuring that the

^{1/} Whitehorse has had both a lower mean January temperature and lower January wind velocity than either Winnipeg or Saskatoon.

micro-climate required for dependable production is created as necessary and this is examined in relation to greenhouse operations.

Location. The physical isolation of a land area otherwise suitable for farming can make farming quite unprofitable. Moreover, it is no more valid to say that the unsuitability of location can be overcome at a cost (in transportation) than it is to say that a suitable climate may be created at a cost for general farming. The technology is available to eliminate the isolation or to modify the climate but the evidence shows that the new technology can be more profitably applied where location and climate are most favourable. Adverse location in the Yukon is not just a matter of longer distances to market, poorer roads, fewer bridges and such. Adverse location means for the Yukon farmer that he can never expect to have many of the farm services that farming in the major areas take for granted - nearby spare parts and repair depots, nearby veterinary services, supply houses, storage facilities, farm financing, specialized advisory services and such. To a major extent, the farmer in the Yukon must provide or arrange for these services himself, over long distances and with great delays. Moreover, he can expect to continue to do so in the future insofar as most of his farming enterprises are concerned because ordinary farming

is unlikely to become extensive enough in the Yukon to make such services profitable there. If such services were confined to agricultural pursuits that could be profitable, it might be possible to make some of them available, of course.

To summarize, the physical environment in the Yukon does not favour ordinary farming operations because the topography of much of the suitable soil areas is too rough and uneven for large-scale machine operations; the soil is podzolized, infertile and low in productivity; the climate tends to be adverse in its short, cool growing season, its drouth, its soil permafrost, and its long cold winters; and its locational disadvantages are costly. In brief, most field crops cannot be ripened or matured and are too frequently damaged by frost; native grasses are widespread but do not grow abundantly because of the short, cool summer and the shortage of precipitation; the costs of producing cattle or sheep are excessive because the grazing season is short and the season when they must be sheltered and fed indoors tends to be quite long; and garden produce can be produced but with less certainty than where climate is less extreme.

These adverse physical conditions are reflected in the economic results of farming. Thus the low productivity of the land is reflected in high costs and low profits.

In addition, because of the high costs of in-bound transportation, the costs of inputs of supplies and materials (fertilizers, repairs, etc.) tend to be higher than in the major farming areas. These higher costs of inputs more than offset the higher prices received.

Yet, in terms of profitability, one of the greatest disabilities of farming in the Yukon is its unsuitability for the large-scale, specialized new technology that has now taken over most of agricultural production in Canada. The Yukon lacks both the large areas of level, well-drained stone-free land that has now become essential for large-scale specialized, mechanized and profitable production of field crops. For effective livestock production the Yukon lacks the climate and the highly productive grazing lands necessary for profitable operations.

With the great changes in Canada's farm technology since the war of 1939-45, and the opportunities for higher incomes in other employment, the old small-scale low-capitalized, and unspecialized farm enterprise can no longer compete with the new specialized large-scale enterprises. These small-scale farms are being abandoned throughout Canada - in the Interlake region in Manitoba, in northern Ontario, in the Gaspé, and in the Maritimes. From 1941 to 1966, the number of farms in Canada dropped from 677,500 to 430,503 and the number of people in the

labour force fell from 1,186,000 in 1946 to 544,000 in 1966. In the face of this decline in farming in areas with greater agricultural potential than the Yukon, it is not surprising that farming in the Yukon should be unprofitable and not widely taken up.

This then is the important thing to recognize, that ordinary farming as practiced in the rest of Canada is not likely to be profitable in the Yukon under present conditions.^{1/}

This does not mean that there should be no farming in the Yukon. The next step is to explore those farming activities that can have a place in the Yukon environment. Part-time or hobby gardening will continue to have an important place in the Yukon for those who enjoy growing and eating the freshest vegetables, and measures should be taken to support this with appropriate research, advisory and reference services. It should not be expected that this vegetable production can compete in price with the imported supplies^{2/} even when surplus

^{1/} This was also the conclusion of the Committee on the Possibilities and Development of Agriculture in the Yukon Territory. See the Report of this federal Committee dated June 15, 1962, where it states, p.13, "Farming on a successful full-time commercial basis has limited possibilities at the present time and settlement on this basis should be discouraged if not prevented."

^{2/} "It may be argued, of course, that there is no point in growing plants under extreme difficulties and when costs are excessive. On the other hand, the returns may be something more than money saved and may be measured in terms of achievement and sheer satisfaction", p.5, A Handbook for Northern Gardeners, by Frank S. Nowasad, Publication 1081, Canada Department of Agriculture, Ottawa, 1964.

production occurs but it provides a useful recreation and an attractive source of food. Such gardening usually requires creating the micro-climate or soil conditions necessary to ensure dependable growth and this is where the additional costs arise.

Similarly, with livestock production, it is frequently possible to use convenient grazing areas and haylands for producing cattle suitable for beef and perhaps producing dairy products on a part-time basis. These activities may be particularly attractive when the operator is mainly engaged in some other occupation, such as tourism or guiding, in the summer and values the livestock as an occupation for winter. Yet if he values his time at ordinary wage rates, the livestock operation will generally be found not profitable.

A third type of farmer may in future seek to settle in the Yukon. This will be the family that already has some income and seeks an opportunity to enjoy the rural peace and dignity of dwelling in a frontier land of hope and promise away from the frustrations of city life. These can perhaps be enjoyed most in the rural atmosphere of part-time farming, fishing and hunting, even though their monetary yeild may be small. In terms of the new technology, such a family may seem to be misplaced but

present civilization may spin off a lot of these in the next decade or two. Already they are moving from the United States into the sanctuary of the interior valleys of British Columbia.

For all three of these farming and gardening enterprise types there should be at least a minimum of appropriate public services provided. These services should include extension and technical advisory services, including advice on veterinary matters, information and guidance in financing and such. These services should be provided by more than an extension man, he should also be a trouble-shooter and one who can appraise management calibre so incompetent people are discouraged from getting into enterprises than they cannot manage. For the last two types of farming adequate provision should be made in Yukon land policy. Along with these there should be a policy for controlling the winter grazing of pack horses and particularly for removing them from the vicinity of the highways, and placing on the horse owners the responsibility for losses and damage due to horses walking on the highways.

A fourth type of agriculture holds promise that it may be both satisfying and profitable in the Yukon. This is the full-scale greenhouse enterprise. With the

progress made in recent years in greenhouse construction and operations, the evidence shows possibilities for profitable production of tomatoes, cucumbers and other vegetables. There are good indications that such an enterprise might now be operated profitably where the market is adequate, such as might be found in Whitehorse.

There has been a sharp growth in greenhouse production of vegetables in Canada and the northeastern United States since the late 1950's. This expansion of production in northeastern United States has been attributed to the use of the lower-cost plastic greenhouses, new varieties and hybrids, and more efficient methods of production.^{1/} In Essex County in Ontario, from 1959 to 1965, greenhouse acreage was tripled, with about one-quarter of the total area of 300 acres under plastic cover.^{2/} The reasons given for this Ontario expansion are: more energetic selling of the greenhouse vegetables; a large importation of fresh tomatoes, except in July and August, offered much scope for competitive expansion; more efficient production enabled prices of greenhouse tomatoes to be reduced to compete with imports; an increase in available credit through the Farm Credit Corporation and other public agencies; and larger scale and more efficient operations were made possible by these new conditions.

^{1/} See "Economic Factors in Greenhouse Tomato Production", in Proceedings, Northeast Greenhouse Vegetable Conference, New Jersey, October, 1966. p. 3.

^{2/} Ibid. "The Ontario Greenhouse Industry", by James R. Rainforth, Harrow, Ont., p. 45-50.

Consideration of the comparable conditions in the Yukon would indicate that such operations might be profitable where an adequate market existed, probably for Whitehorse and in the larger mining camps.^{1/}

Such a greenhouse operation should be regarded as experimental for the initial period and on this basis should warrant some public financial support in the beginning. It needs to be tested not only in the techniques and costs of production but also in the ability to serve dependably the local market and to command a profitable price. Since this is an enterprise that may be extended to other locations in the North eventually, it is an enterprise that may warrant special public support and assistance in the beginning stages. It is suggested that such assistance might take the form of a capital loan for part of the cost of constructing and equipping a small (perhaps 20,000 to 30,000 square feet) greenhouse provided a competent entrepreneur can be found to manage

^{1/} It should be noted that the recent problems and unprofitability of the large-scale trial greenhouse operations at Soldatna on the Kenai Peninsula in Alaska should not be taken as a measure of their effective success. The Soldatna experiment has only been in operation a few years, was probably on too large a scale in the beginning, management tended to be inexperienced and a number of mistakes were made which might have been avoided, according to our interviews with scientific staff of the University of Alaska and the Research Station at Palmer, Alaska.

it and probably to operate it eventually as a private undertaking. Considerations to be taken into account in such an enterprise would be:

1. To ensure that competent management is obtained.
2. To make every effort to reduce the cost of energy to the minimum both for heating and for light.
It has been suggested that a location near the Takhini hot springs north of Whitehorse might facilitate obtaining low-cost heat.
3. To operate from the beginning as a commercial enterprise and keep careful cost and revenue records to check profitability.
4. To make an effective appraisal of the market potential to ascertain the scale of operations that may be profitably undertaken and whether one or more enterprises might be desirable.

With these considerations in view, it is recommended that an experiment, of at least five years duration, in greenhouse production of tomatoes and other vegetables be supported by the federal Department of Indian Affairs and Northern Development or the Department of Agriculture, or both, in the vicinity of Whitehorse. The experiment should be operated as a commercial enterprise

and should use private management as far as may be possible. The objective should not be to see whether tomatoes and other vegetables can be grown under greenhouse conditions but to examine whether they can be produced profitably under commercial conditions. For this reason, it may be most effective to provide a loan to a competent and enthusiastic private entrepreneur to make a commercial test. Yet it should be noted that such an enterprise requires considerable expertise to be successful and that under Yukon conditions some special expertise will be needed.^{1/} To indicate the possibilities elsewhere, a summary budget for a one-acre (45,000 square feet) greenhouse in Nova Scotia is shown in the Appendix at the end of this report. Both costs and revenues would be higher in the Yukon than those shown in the Nova Scotia budget.

Conclusions

In summary, ordinary farming may be possible in the Yukon but it is unlikely to be profitable. There is virtually no potential in the Yukon for the old agriculture as practiced in the Klondike gold rush days

^{1/} The present management of the federal Experimental Farm at Haines Junction could probably supervise and advise such a trial greenhouse operation very well.

^{2/} See Maritime Agriculture: A Comparative Regional Analysis, a report prepared by D. Wm. Carr & Associates Ltd. for the Atlantic Development Board, Ottawa, 1967, Volume 2, The Enterprise Analysis, by B. H. Sonntag, p. 430-1.

because this type of farming is being abandoned wherever it existed in Canada. There is virtually no potential in the Yukon for the new large-scale, highly-mechanized farming now dominating agriculture in the rest of Canada because the physical environment is not suitable for it in the Yukon.

There should be some potential in part-time farming but it should not be expected to be commercially profitable. There may be a significant potential in greenhouse operations and special measures are recommended to test and develop such operations in or near Whitehorse. It is recommended that a special appraisal of long run land policy should be undertaken.

Contribution to the Yukon Economy

It is not expected that agriculture will make a significant contribution to the Yukon economy except for the contribution of the greenhouse operations. As far as farm enterprises generally are concerned it may be expected that the decline of existing enterprises will offset any increase due to new enterprises. The contribution of the greenhouse enterprise to the economy will not be very great; by 1985 it is estimated it will add about \$50,000 to \$100,000 to the output of the Yukon, will require a capital investment of about \$75,000 and will add about six to ten workers to the labour force.

APPENDIX

APPENDIX, GREENHOUSE ENTERPRISE BUDGET

NOVA SCOTIA, 1967

This enterprise budget has been developed for the one-acre greenhouse on the basis of appropriate estimates of capital requirements, yields, labour requirements, etc.^{1/} Many of the estimates of costs are preliminary at this stage and some had to be based on only rough approximations for the location.

(i) Gross Income^{2/}

Tomatoes

Spring crop - 60T @ 30¢/lb.	\$36,000
Fall crop - 30T @ 25¢/lb.	<u>15,000</u>
Total	\$51,000

(ii) Expenditures

Cropping Inputs

Fertilizer and lime ^{3/}	\$ 900
Seed and plants ^{4/}	125
Chemicals ^{5/}	200
Miscellaneous ^{6/}	<u>1,000</u>
Total	\$ 2,225

^{1/} See Maritime Agriculture: A Comparative Regional Analysis, a report prepared by D. Wm. Carr & Associates Ltd. for the Atlantic Development Board, Ottawa, 1967, Volume 2, The Enterprise Analysis, by B. H. Sonntag, p. 430-1.

^{2/} The estimates of yields and prices were based on information from greenhouse tomato producers in Nova Scotia. Yields were estimated at 10 pounds per plant for the spring crop and 5 pounds per plant for the fall crop. Plant density was estimated at 12,000 per acre.

^{3/} Based on a yearly requirement of the equivalent of 6 tons of 18-18-18 or 20-15-20 at \$114 per ton.

^{4/} Based on Ontario data.

^{5/} Based on estimates from greenhouse operators in Nova Scotia.

^{6/} Includes soil sterilization, plant bands, twine, mulch, etc.

Labour

Five men @ \$250 per month^{1/} \$15,000

Greenhouse Operation

Fuel^{2/} \$11,000
Power^{2/} 1,000
Water^{2/} 250

Total \$12,250

Buildings^{3/}

Depreciation \$ 5,000
Repairs 1,000
Insurance 500

Total \$ 6,500

Marketing Costs^{4/}

Packages @ 12¢/10 lb. bag \$ 2,376
Transportation @ 8¢/10 lb. bag 1,584

Total \$ 4,960

Other Costs

Taxes^{5/} \$ 688
Miscellaneous^{6/} 500

Total \$ 1,188

Total Expenditure \$42,123

Per square foot 97¢

-
- ^{1/} The labour force was assumed to consist of an operator and five men. No allowance for operator labour is included in this estimate.
- ^{2/} Based on estimates from greenhouse operators in Nova Scotia.
- ^{3/} Average useful life was assumed to be 20 years, hence a depreciation rate of five per cent. Repair costs were estimated at one per cent of replacement cost.
- ^{4/} Based on estimates from greenhouse operators in Nova Scotia.
- ^{5/} Based on 1.25 per cent of average investment. The rate is based on 1961 census data for Nova Scotia.
- ^{6/} Includes telephone, business expenses, etc.

(iii) Net Income

1. Net income of the basic enterprise

Gross income	\$51,000
Expenditure	42,123
Net income	8,877
Interest on capital (6%)	3,300
Labour income	5,577

2. Net income of the same enterprise on the basis of 1966 prices of 30.8 cents per pound for the spring crop and 28 cents per pound for the fall crop:

Gross income	\$53,760
Expenditure	42,123
Net income	11,637
Interest on capital (6%)	3,300
Labour income	8,337

HUNTING, TRAPPING AND FISHING
IN THE YUKON TERRITORY

by

D. W. Carr

D. Wm. Carr & Associates Ltd.

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HUNTING, TRAPPING AND FISHING

Introduction

Wildlife (mammals, birds and fish) provide both income and recreation in the Yukon economy. Traditionally, the major contribution of wildlife resources to the economy has been made through the income of the native population - in hunting game for food, in trapping animals for furs, in fishing for food and in income from guiding. More recently, their contribution to the economy in terms of recreation has been increasing. In 1968, these wildlife resources continued to comprise an important part of native incomes but such incomes were low and there was evidence that other employment when available would supplant them. Accordingly, the contribution of hunting, trapping and fishing to the Yukon economy was expected to decline, both relatively and absolutely, in future. Overall, it is estimated that trapping and fishing together accounted for a gross output of about \$120,000 in 1967. To indicate the decline in these, it may be noted that the value of

trapping (fur pelts sold) in the Yukon was alone over \$677,000 in 1946. The present and potential contribution to the economy of each of the three activities is examined.

Hunting

Hunting was an important part of the Yukon economy when it provided a major source of the meat supplies for the people. Today it is relatively much less important even though it now attracts some additional income as a sport and recreation activity. In the Yukon, three types of hunting can be identified. Those native people who continue to live mainly off the land, hunt to provide an important part of their meat supply; other residents hunt for recreation and to a lesser extent for meat; and non-residents come to the Yukon to hunt for recreation, sport and the prestige of the big game trophy. The outlook for each of these is different. As the education and incomes of the native people continue to improve, they will depend less and less on hunting and fishing to provide their meat requirements. The second group, the residents who hunt for recreation, may be expected to expand rapidly as the economy and their leisure time grow. The third group, those who come to the Yukon especially for

the hunting, may be expected to decline as the game becomes more scarce, resident use increases and conservation measures are put into effect. At present, there is a group of outfitters devoted to providing hunting services (guides, pack-trains, etc.) for these non-resident hunters.

Hunting Resources

The Yukon enjoys an extensive and attractive range of wildlife resources. Many of them scarce in other regions. The mountainous nature of much of the Territory, the extensive valleys to provide food and shelter, and the sparsity of human population, have all combined to make the Yukon a major refuge, especially for big game like grizzly bear, brown bear, dall sheep, stone sheep, mountain goat, moose, caribou, wolf and others. Game birds (grouse and ptarmigan) are plentiful.

As a result, it has become an attractive hunting area for both residents and non-residents. Caribous are widely distributed and are found in the vicinity of Watson Lake, Ross River, and along the Sixty-Mile, Dempster and Can-Tung highways. Moose are present throughout the Territory but show preference for the valley, swamp and lake area, retreating to higher ground in the summer. Dall sheep and mountain goats frequent the high mountain ranges of the southwest. The population of grizzly bears is reported to be declining.

The Demand for Hunting

In the 1966-67 hunting season a total of 2,517 hunting licences were sold (Table 1). Non-resident licences comprised only 285 of these; the other 2,232 licences were sold to residents including 106 general hunting licences issued to those primarily in trapping. In addition, these latter (general hunting) licences are issued free to natives and anyone over 65 years of age and about 500 of these were being issued each year. Thus the great majority of hunters are Yukon residents seeking recreation or meat supplies. It may be expected that this demand will grow as population grows but will shift more toward recreation rather than toward supplying meat.

The licence revenue received by the Game Branch is largely from non-resident hunters (Table 2), with the balance received from resident licences (numbering 2,232 in 1966-67) outfitter (22) and guide licences (120), trapping (21) and fur trader licences (17), and the fur export tax. The contribution to the economy from resident hunters lies mainly in their purchases of guns and other equipment and supplies and these are ordinarily included as part of the retail merchandising industry - the gross value might be estimated at an average of probably \$50 per resident hunter or \$100,000 a year. The gross

TABLE 1

HUNTING LICENCES ISSUED BY TYPE, YUKON TERRITORY, 1959-60 TO 1967-68^{1/}

Year	Non-Resident				Resident		
	Alien Big Game	Canadian or British Big Game	Alien Spring Bear	Game Bird	Total Non- Resident	Resident Hunting	General Hunting Total Resident
	(number)						
1959-60	107	7	7	27	148	1,988	87 2,075
1960-61	123	3	7	39	172	2,092	84 2,176
1961-62	192	13	4	21	230	2,295	76 2,371
1962-63	146	14	4	31	195	2,653	85 2,738
1963-64	159	16	3	8	186	2,354	140 2,494
1964-65	199	11	-	17	227	2,258	104 2,362
1965-66	230	26	4	10	270	2,087	97 2,184
1966-67	244	18	2	21	285	2,126	106 2,232
1967-68	238	37	3	25	303	n.a.	n.a. n.a.

^{1/} Based on data supplied by the Territorial Game Branch, Whitehorse.

TABLE 2

GAME BRANCH REVENUES, GOVERNMENT OF THE
YUKON TERRITORY, 1959-60 TO 1967-68^{1/}

Year Ending March 31	Revenue from Non-resident Hunters	Total Revenue of Game Department
(dollars)		
1959-60	12,920	26,098
1960-61	13,615	25,954
1961-62	21,660	32,303
1962-63	17,111	29,162
1963-64	18,380	34,150
1964-65	22,172	34,816
1965-66	26,850	37,481
1966-67	27,285	37,523
1967-68	29,449	n.a.

^{1/} Game Branch, Government of Yukon Territory.

expenditures of non-resident hunters is greater than this although usually in numbers they comprise only ten or 15 per cent of resident hunters.

Non-Resident Big Game Hunting

Of the 285 non-resident licenced hunters in 1966-67, 272 used the services of the big-game outfitters. There were 21 outfitters in operation that year and each had obtained the exclusive right to outfit and guide non-resident hunters in a particular area of the Yukon.^{1/} In the main, the non-resident hunters are obliged to use the services of an outfitter; this is designed to provide a measure of responsible control through the resident outfitter. Of the 21 registered outfitters, ten were located in Whitehorse, four along the Alaska Highway, three in the Mayo district, two in the Watson Lake district and one each in Teslin and Carcross. These outfitters had an estimated revenue of about \$325,000 in 1967, an estimated investment of about \$400,000 and employed about 150 persons, mostly guides. One of their costs that is presently being borne by the public is the cost of grazing their horses on the roadsides in winter.

^{1/} Yet Yukon residents are not barred from hunting freely anywhere in the Yukon and outfitter or guide services are not required by them.

Most (85 per cent in 1967) of the non-resident hunters are from the United States. On the average they each spent 14 days on their hunting trips at an average cost of \$1,194 per hunter per trip in 1967.

Conclusions and Recommendations

Hunting is likely to become more a tourist and resident sport than it has been in the past, with less emphasis on hunting for a meat supply and on large scale big game hunting by non-residents.

Conservation of the wildlife, especially the big game resources, is likely to require more positive controls within a few years. These resources should be preserved as part of the attraction for tourists and other visitors. It is recommended that the need for conservation be appraised as soon as possible by the taking of an inventory of wildlife resources in the Yukon. Consideration should also be given to the extension of game reserve areas.

It is recommended that outfitters be required to control the winter grazing of their pack horses in order to remove them as a public hazard from the highways.

Contribution to the Economy

It is not expected that hunting will make an additional contribution to the Yukon economy beyond its expanding contribution to the tourist industry.

Trapping

Fur production in the Yukon, unlike most of Canada, comes entirely from trapping. In recent years, about 60 per cent of Canada's fur output has come from fur farms. Fur production in Canada has not grown in value since 1945 (Table 3) but in the Yukon it has declined absolutely in that period. In 1966 and 1967 the value of fur output in the Yukon was below \$100,000.^{1/} Prices of most furs had fallen substantially after 1946 (Table 4) but in the Yukon the number of pelts sold also declined (Table 3).

In the Yukon, trapping is a major source of cash income for only a few people, mainly natives. It combines well with their hunting and fishing for food. Trapping must be classed as a harsh employment that yields a relatively low income for the efforts exerted. In 1965-66, a total of 395 trappers were licenced in the Yukon. Of these, 290 were native trappers whose licences were free, eight were trappers over 65 years old, also free; and the other 97 were general hunting and trapping licences whose licence fee was \$5.

^{1/} Final data for 1967 not yet available for publication.

TABLE 3

PELTS OF FUR BEARING ANIMALS SOLD
YUKON TERRITORY AND CANADA, 1946-66^{1/}

Year ending June 30th.	<u>Yukon</u>		<u>Canada</u>	Yukon as percentage of Canada
	Pelts	Value	Value	
	(number)	(thousand dollars)	(thousand dollars)	(per cent)
1946	107,252	677.5	43,870.5	1.5
1947	58,777	373.2	26,350.0	1.4
1948	131,227	230.1	32,233.0	0.7
1949	151,969	143.8	22,899.9	0.6
1950	153,574	199.1	23,184.0	0.9
1951	228,616	362.0	31,134.4	1.2
1952	171,274	173.3	24,215.1	0.7
1953	246,379	247.0	23,349.7	1.1
1954	176,338	182.2	19,287.5	0.9
1955	213,515	243.0	30,509.5	0.8
1956	109,576	155.8	28,051.7	0.6
1957	108,102	108.9	25,592.1	0.4
1958	110,512	118.6	26,335.1	0.5
1959	104,604	67.6	25,800.6	0.3
1960	182,982	158.2	31,186.1	0.5
1961	116,787	105.0	28,737.1	0.4
1962	98,902	125.3	28,971.1	0.4
1963	45,131	87.6	31,943.4	0.3
1964	86,394	171.2	39,493.2	0.4
1965	70,995	172.9	36,534.6	0.5
1966 ^{3/}	22,308	64.9	45,574.5	0.1

^{1/} Fur Production, Cat. No. 23-207, and Canada Year Book,
Dominion Bureau of Statistics, Ottawa.

^{2/} Includes sales by fur farms which accounted for 50-60
per cent of the value of pelts from 1956. Data prior
to 1952 do not include Newfoundland.

^{3/} Preliminary data.

TABLE 4

CANADIAN AVERAGE VALUES OF PRINCIPAL FURS AVAILABLE
FROM THE YUKON TERRITORY, 1945-46 TO 1965-66^{1/}

Season	Beaver	Ermine	Lynx	Marten	Mink ^{2/}	Muskrat	Squirrel
(dollars)							
1945-46	50.80	2.97	37.20	56.17	-	3.26	0.79
1949-50	20.99	1.49	10.18	18.81	-	1.70	0.35
1950-51	23.58	2.14	11.27	25.54	-	2.25	0.66
1951-52	14.91	1.53	5.23	16.30	-	1.42	0.43
1952-53	13.90	1.32	5.55	11.66	-	1.26	0.45
1953-54	10.57	0.95	3.62	7.25	-	0.94	0.55
1954-55	14.88	1.57	6.15	9.51	18.23	1.16	0.55
1955-56	12.10	1.35	5.26	7.87	19.19	0.95	0.46
1956-57	11.64	1.17	8.60	6.05	12.98	0.89	0.45
1957-58	10.45	1.09	8.99	6.29	-	0.71	0.41
1958-59	10.31	0.97	14.00	6.08	-	0.85	0.40
1959-60	13.73	0.97	17.44	6.65	-	0.83	0.46
1960-61	11.83	0.89	10.71	5.27	-	0.68	0.40
1961-62	10.99	0.91	9.41	5.59	16.00	0.88	0.36
1962-63	12.48	0.81	13.32	8.28	15.80	1.33	0.49
1963-64	13.33	0.80	14.63	8.84	16.23	1.37	0.58
1964-65	11.81	1.24	16.65	9.02	14.32	1.32	0.59
1965-66	15.40	1.35	37.35	11.47	14.33	1.75	0.63

^{1/} Fur Production, Cat. No. 23-207, Dominion Bureau of Statistics, Ottawa.

^{2/} Wild mink prices were not available for all years.

The principal furs taken by trappers in the 1965-66 season were: beaver (2,093 pelts averaging \$12.89 in value), muskrat (11,345 pelts at \$1.36), squirrel (17,963 pelts at 58 cents), fox (187 pelts), fisher (8), lynx (653), marten (481), weasel (401), mink (210) and other (35).

Incomes from trapping were mostly low^{1/} and in recent years averaged less than \$400 per licence (Table 5). In 1966 and 1967, with the value of pelts sold below \$100,000 this average return to trappers would undoubtedly be reduced below \$400.

TABLE 5

LICENCED TRAPPERS AND AVERAGE VALUE OF PELTS SOLD
YUKON TERRITORY, 1963-64 TO 1965-66

	1963-64	1964-65	1965-66
Licenced Trappers (no.)	437	491	395
Value of Pelts Sold (dollars)	87,600	171,200	172,900
Value per Licencee ^{2/} (dollars)	160	279	350

^{1/} See, for example, A. Tanner, Trappers, Hunters and Fishermen, Yukon Research Project No. 5, Department of Indian Affairs and Northern Development, Ottawa, 1966. This study reports the average income as ranging between \$30 and \$1,500 for non-native trappers and between \$100 and \$2,000 for the natives.

^{2/} It is estimated that 20 per cent of the sale price goes for dealers' services, including handling, storage and selling.

Outlook for Trapping

These low incomes plus the relative hardships of running a winter trapline, indicate that the number of trappers will decline as other more attractive employment opportunities increase in the Yukon and as the older trappers retire from active operations. The uncertainties of the fur yield each year and the variability of their prices make trapping a risky enterprise at best. It may be expected that the number of native trappers will continue at a fairly high but declining level for the next decade at least. Under these circumstances, the decline of fur purchasing services in the Yukon is likely to result in even lower prices and a significant weakening of this source of native incomes. Support for a fur auction or other form of marketing activity may be desirable for a few years, as the trapping industry declines and until alternative employment for these people may be available.

Conclusions and Recommendations

Trapping did not make a very large contribution to the Yukon economy in 1967. Its contribution has been declining and will continue to decline in the future as alternative employment opportunities expand. Yet trapping remains a significant source of income to several

hundred native trappers and, though declining, such trapping is likely to continue for the next decade at least. Because the fur purchasing services in the Yukon have been declining with the decline in trapping, it is recommended that some public support for a fur auction or other suitable marketing agency be provided to serve these native trappers until support is no longer warranted.

Potential Contribution to the Yukon Economy

It is expected that the trapping industry will continue to decline in the Yukon so the contribution to the economy will tend to be negative but the change will be relatively slow and since the industry is small, the overall effect on the economy will be small.

Fisheries

Fishing in the Yukon Territory is limited by the waters available. With only a few inland lakes and no fishing in the Beaufort Sea the potential for commercial fishing is quite restricted at best. Yet with an extensive network of brooks, streams and rivers linking the dozen or more lakes, the opportunities for sport fishing are excellent. The major fish species are salmon

(spring and chum), lake trout, whitefish and some arctic grayling. Fishing in the Yukon is of three types - commercial, for home use and sport fishing.

The commercial fisheries are relatively small, totalling only 84,700 pounds (Table 8) and valued at only \$26,000 landed, in 1966. The main species landed were spring and chum salmon, whitefish and lake trout (Table 7). Employment in the commercial fisheries was reported as 45 in 1966 and 54 in 1967, but these were the number of commercial licences issued (Table 6). Only five of the 54 licencees in 1967 were reported to be full-time fishermen, that is those who earned their living mainly from fishing.^{1/}

Most (47) of the commercial licences went to gill-net fishermen in 1967-68, with only seven for fish-wheel operators.

The total value of boats and gear in the commercial fisheries was estimated at only \$39,000 in 1967, including 27 boats valued at \$17,000 and equipment valued at \$22,000 (Table 9). The fish resources available in the Yukon for the intensive fishing of the commercial fishermen are quite limited and would soon be exhausted if catch limits and other prohibitions were not imposed by the Department of Fisheries. In addition, on some

^{1/} District Protection Officer, Department of Fisheries, Whitehorse.

TABLE 6

COMMERCIAL FISHING LICENCES ISSUED
YUKON TERRITORY, 1960-61 TO 1967-68^{1/}

<u>Fiscal Year</u>	<u>Gill-net Licences</u>	<u>Fishwheel Licences</u>
	(number)	
1960-61	16	6
1961-62	24	7
1962-63	43	7
1963-64	33 (estimated)	5
1964-65	33	4
1965-66	28	6
1966-67	39	7
1967-68	47	7

^{1/} Department of Fisheries, Whitehorse.

TABLE 7

QUANTITY OF FISH LANDED, BY TYPE, COMMERCIAL FISHERIES

YUKON TERRITORY, 1962-67^{1/}

Year	Whitefish	Lake Trout	Spring Salmon	Chum Salmon	Total
(pounds)					
1962	18,800	17,400	69,400 ^{2/}	^{2/}	112,200
1963	19,000	21,500	47,400 ^{2/}	^{2/}	110,000
1964	21,000	19,000	38,500	14,500	93,000
1965	15,200	10,700	27,200	14,500	67,600
1966	17,800	21,700	21,100	22,100	84,700
1967	n.a.	n.a.	24,200	24,300	n.a.

^{1/} Data supplied by Department of Fisheries, Ottawa.

^{2/} Chum Salmon included with Spring Salmon in 1962 and 1963.

TABLE 8

QUANTITY AND VALUE OF FISH LANDED AND EMPLOYMENT
COMMERCIAL FISHERIES, YUKON TERRITORY, 1962-66^{1/}

Year	Quantity Landed	Landed Value	Marketed Value	Employment
	(hundred- weight)	(thousand dollars)		(number)
1962	1,122	n.a.	n.a.	50 ^{2/}
1963	1,100	n.a.	n.a.	38 ^{2/}
1964	930	25	35	33
1965	676	17	26	33
1966	847	26	34	45

^{1/} Fishery Statistics - British Columbia and Yukon Territory, 1964 and 1965, Cat. No. 24-208, Dominion Bureau of Statistics, Ottawa. Department of Fisheries, Whitehorse records, 1962 and 1963 quoted in Tanner, Adrian: Trappers, Hunters and Fishermen, Northern Co-ordination and Research Centre, Ottawa. Dominion Bureau of Statistics, records 1966. The data are based on returns from individual fishermen and may not always be complete. The data for 1964-66 are for salmon, lake trout and whitefish and may exclude small quantities of other species.

^{2/} Number of commercial licences.

TABLE 9

BOATS AND GEAR, IN COMMERCIAL FISHERIES

YUKON TERRITORY, 1964-67^{1/}

Year	Boats		Equipment Value	Total Value
	Number	Value		
		(thousand dollars)	(thousand dollars)	(thousand dollars)
1964	22	13	13	26
1965	22	13	13	26
1966	26	16	15	31
1967	27	17	22	39

^{1/} Dominion Bureau of Statistics, Fishery Statistics,
and Department of Fisheries, Whitehorse.

lakes where commercial fishing is carried out many of the fish are unsuitable for marketing because of cysted parasites.^{1/} Moreover, as the tourist industry grows and sport fishing by residents increases, it seems likely that the returns from the limited fish resources available can be greatest if they are channelled through the sport fishery rather than the commercial fishery.

This is indicated also by the disadvantages under which the commercial fishery operates - quotas are small and supplies to fish buyers are irregular; the quality of the fish catch (cysted whitefish and emaciated salmon) tends to be inferior; whitefish from Great Slave Lake is usually superior in quality and competitive in price; and merchants and hotels ordinarily find the imported fish more dependable in supply. It seems likely that in the near future the locally caught fish will be used more as a special attraction in the meals served in hotels and resorts catering to tourists.

Fishing for home use on a regular basis is mainly carried out by the native people. Fish are a staple in the diets of many Indians and their catch for home use was estimated at about 130,000 pounds in 1965. Salmon are

^{1/} Fishery officers inspect all whitefish for export and prohibit the export of shipments containing over 80 cysts per 100 pounds.

regularly caught during their spawning run, mostly with fishwheels, and the surplus fish are split, smoked and dried for winter use.

Prospectors and others living in isolated places during the summer are regularly permitted to catch fish for their own use.

Sport fishing in the Yukon has increased remarkably in recent years. Most of the growth has been in fishing by non-residents. From 1960-61 to 1967-68 non-resident fishing licences almost doubled, and now are almost three times the number of resident licences (Table 10). With the recent increases in the population of the Yukon, resident fishing can be expected to increase. The licence fee for non-residents remains at \$2, with the residents fee at \$1. The major attraction for the visiting angler is the large number of unfrequented fishing places in the Yukon and the relative abundance of lake trout and arctic grayling in the streams and lakes. Of the 6,969 non-residents licenced in 1967-68, some 6,120 were United States residents, 828 were from Canada and 21 from other countries.

Thus the growth of sport fishing is associated closely with the growth of the tourist industry in the Yukon. In 1967, there were 19 lodges catering to sport

TABLE 10

ANGLING LICENCES, NUMBER AND FEE REVENUE
YUKON TERRITORY, 1960-61 TO 1967-68^{1/}

Fiscal Year	<u>Resident</u>		<u>Non-resident</u>	
	Licences	Fees	Licences	Fees
	(number)	(dollars)	(number)	(dollars)
1960-61	2,612	2,612	3,721	7,442
1961-62	2,600	2,600	3,960	7,920
1962-63	2,672	2,672	3,687	7,374
1963-64	2,851	2,851	4,229	8,458
1964-65	2,505	2,505	4,185	8,370
1965-66	2,543	2,543	5,104	10,208
1966-67	2,760	2,760	5,916	11,832
1967-68	2,679	2,679	6,969	13,938

^{1/} Department of Fisheries, Whitehorse.

fishermen. Ten of these lodges were located on Teslin Lake, two on Tagish Lake and one each at Carcross, Marsh Lake, Dezadeash Lake, Kluane Lake, Destruction Bay and Toobally Lake. Three were accessible only by plane.

The construction of new highways and development roads has opened many previously inaccessible lakes for sport fishing.

The numbers of these tourist-fishermen may thus be expected to continue to grow. Moreover, the opening of new streams and lakes to sport fishermen by the continued extension of mining roads in the Yukon can be counted upon to maintain this special attraction of new accessibility.

If the sport fishery results in each tourist-fisherman spending even \$20 additional in the Yukon the value of the sport fishery could be expected to yield five times the value of the commercial fishery. In the future, both the numbers and spendings of non-resident sport fishermen can be expected to increase.

Conclusions and Recommendations

Commercial fisheries in the Yukon should be expected to contract rather than expand. The sport fishery may be expected to expand substantially in the future. This expansion will be associated partly with the increase in resident anglers as a result of population increases in

the Yukon but it will be associated mainly with the increase in non-resident anglers as the tourist industry expands. These potentials are also examined in the study of the tourist industry.

The commercial fishery should be expected to cater primarily to the tourist industry because the regular demand for fish products can ordinarily be most effectively supplied by imported products.

It is recommended that the Fisheries Research Board be requested to carry out a survey of the present and potential fish resources of the Yukon.

It is recommended that the economy of the Yukon be supported, where appropriate, by giving priority to the sport fisherman and the tourist industry over the commercial fishery and that prohibition of the commercial fishery should be applied where appropriate for this purpose.

It is recommended that special provision be made by the Department of Fisheries to maintain adequate fish resources to meet the requirements of the native fishermen who wish to supplement their meat supplies with fish.

It is recommended that a program be instituted for developing additional fishing lodges and camps particularly in fishing areas newly opened by highways.

Potential Contribution to the Economy

The commercial fisheries were making little contribution to the Yukon in 1968 and even this contribution was expected to gradually decline. A more significant contribution was being made by the native fishery for home use but this was not expected to expand.

The major economic contribution could be expected from the sport fishery, especially if the competition of commercial fishing was eliminated where it had adverse effects on the economy. The sport fishery is closely associated with the tourist industry and its contribution will enhance that of the tourist industry.

